# Final Human Health and Ecological Risk Assessment (February 2019)

Goliath Gold Project
Treasury Metals Inc.
TC160516

Prepared for:

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# Executive Summary

## HHERA Objective

The objective of the Human Health and Ecological Risk Assessment (HHERA) is to assess the potential risks to human health and ecological receptors as a result of exposure to chemicals associated with the Goliath Gold Project in accordance with the current regulatory guidance on environmental assessments (EA)s and risk assessment to support Treasury Metals in achieving final Project approval under *CEAA, 2012*. The methodology, conclusions, and recommendations provided in the current 2018 HHERA Report are intended to supersede the former screening level risk assessment (SLRA) provided as Appendix W of the revised environmental impact statement (EIS) (April 2018). The HHERA is divided into two main components; the Human Health Risk Assessment (HHRA) including a country foods assessment and an ecological risk assessment (ERA). The HHRA was completed using Health Canada's Detailed Quantitative Risk Assessment (DQRA) and Preliminary Quantitative Risk Assessment (PQRA) guidance documents, Health Canada's EA guidance documents, and Alberta Health and Wellness' guidance on completing a HHRA for an EIS. The ERA follows the framework within the Canadian Council of Ministers of the Environment (CCME) Federal Contaminated Sites Action Plan (FCSAP) guidelines for conducting an ERA (FCSAP 2012). The ERA provided was completed as a screening level risk assessment.

## Traditional Knowledge and Traditional Land and Resource Use

The Goliath Gold Project is located within the area covered by Treaty No. 3. Treaty No. 3 includes 28 First Nation communities and a number of villages and towns including Wabigoon, Dryden, Eagle River, Vermillion Bay, Sioux Lookout, Atikokan, Fort Frances, and Kenora. The Project is also located within an area identified by the Métis Nation of Ontario as the Treaty No. 3/Lake of the Woods/Lac Seul/Rainy River/Rainy Lake traditional harvesting territories, also named Region 1. Treasury Metals has been participating in meaningful engagement activities with key Indigenous stakeholder groups since 2008 and has obtained valuable information regarding traditional knowledge and information about the current use of land and resources for traditional purposes.

Treasury Metals recognizes that Indigenous people live, work, hunt, fish, trap, drink water, and gather/harvest throughout their lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical, and economic well-being. Further to this, Treasury Metals recognizes that these traditional lands are inextricably connected to an Indigenous community's identity and culture, inclusive of ceremonial and spiritual recognition. Treasury Metals understands the importance of assessing any potential effects of the Project as they relate to traditional land and resource use activities and practices; and acknowledges that the Project may affect the availability of resources or practices within the Project area. Treasury Metals is committed to working with all communities to identify, mitigate, and avoid, or otherwise minimize, these potential effects to the extent practicable. Treasury Metals is aware that many the Indigenous communities are particularly concerned with the potential effects of the Project on their health including how the Project may affect air quality, surface water quality, and quality of country foods for consumption. These exposure pathways were comprehensively investigated within the HHERA report. As part of the Round 2 information request process, Treasury Metals committed to each Indigenous stakeholder group to work with them to develop risk communication plans to mitigation any perception of risk on their overall well-being.

As part of the Round 2 process, Treasury Metals met with a number of Indigenous communities. These Indigenous communities indicated that the results of the traditional knowledge and traditional land and resource use studies were a snapshot of the community. It was additionally noted that although specific areas of country foods harvesting have been identified confidentially through the various engagement activities, all areas should be assumed suitable for traditional use. To ensure that the effects of the Project on Indigenous communities were adequately assessed revised EIS (April 2018) and the HHERA both assumed that all areas where the Project was predicted to have an effect (on noise, wildlife habitat, fish, air quality, access etc.) would in turn have an effect on current use of land and resources for traditional purposes (including country foods) and thus require mitigation measures. As such, the approach applied in the HHERA Report that all areas outside of the Operations Area may be used for traditional land and resource use during the active phases of the Project, and all areas including the Operations Area may be used for traditional land and resource use following closure of the Project, remains appropriate. Treasury Metals is working with the Indigenous stakeholder communities to develop access management plans so that traditional land and resource use may occur in Property Boundary but outside of the Operations Area where it is safe to do so.

## Spatial Boundaries, Temporal Boundaries, and Assessment Scenarios

The HHERA assessed potential risk at three Study Areas chosen to represent the areas where human and ecological receptors would experience the highest magnitude, frequency, and duration of chemical exposure representative of the various phases of the Project. The assessment also considered all active phases of the Project including Site Preparation and Construction, Operations and Closure, as well as a passive phase of environmental reclamation referred to as the Post-Closure phase of the Project. The evaluated potential health risks to human receptors (Project Workers, Residents, Visitors/Harvesters) and ecological receptors (i.e., terrestrial and aquatic wildlife, invertebrate, and vegetation communities) associated with chemical concentrations in exposure media for baseline conditions (i.e., Base Case Assessment Scenario), the Project alone (Project Alone Assessment Scenario), and the combination of baseline and Project (Project Assessment Scenario) as per Agency EA guidance.

For human health and ecological receptors, a residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada/CCME acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than base, then the residual effect would not be adverse. The evaluation of residual adverse effects has focused on the Project Assessment Scenario recognizing that individuals and ecological receptors cannot be exposed to the Project Alone Assessment Scenario under real world conditions. In keeping with the EIS Guidelines for the Goliath Gold Project, the estimated potential risk via the sum of all operable exposure pathways is based upon the predictions that incorporate the mitigation measures described in the revised EIS (April 2018). In keeping with risk assessment methodology, the residual adverse effects for have been identified in the absence of risk management measures.

The three Study Areas assessed for the HHERA are as follows:

- **Study Area No. 1: Operations area**: The Operations Area includes all of the active mining areas associated with the Project. During the active life of the Project access to the Operations Area will be restricted to all but Project Workers for safety and security reasons. There will be no harvesting of country foods within the Operations Area for the active phases of the Project. There are no sensitive/community-based receptors as defined by the CCME within the Operations Area.

- **Study Area No. 2: Local Study Area**: The LSA corresponds with the LSA used in the revised EIS (April 2018) for evaluating the effects of the Project on wildlife and wildlife habitat, as well as evaluating the effects of the Project on terrestrial vegetation. The LSA excludes the Operations Area but includes areas within the Property Boundary where traditional land and resource use may be practiced. The LSA includes areas within the Property Boundary of the Project (i.e., the lands leased by Treasury Metals, or for which Treasury Metals holds surface and mineral rights), which would continue to be available for traditional uses by members of Indigenous communities. There are no community-based receptors within the Property Boundary, however there are sensitive /community-based receptors outside of the Property Boundary and within Study Area No. 2. There will be a mandatory sign in and access policy to be defined for those who wish to use areas within the Property Boundary to ensure the safety of the public.

- **Study Area No. 3: Village of Wabigoon**: The Village of Wabigoon is located approximately 4 km to the south of the Project and represents the closest populated community to the Project. All of the Village of Wabigoon is located outside of the Property Boundary. There are sensitive/community-based receptors as defined by the CCME located within the Village of Wabigoon.

## Valued Components and Indicators

Chemical parameters including criteria air contaminants (CACs) were selected as the valued components (VCs) used in the assessment of residual adverse effects on human health. Concentrations of chemicals in environmental media (including air, soil, and surface water) and Project-specific media (including waste rock, tailings storage facility (TSF) supernatant water, and pit-lake water) were measured or modelled during baseline studies completed in support of the other technical disciplines associated with the revised EIS (April 2018). The large data sets associated with each media (apart from TSF supernatant water quality) allowed for the use of the 95% upper confidence limit of the mean (UCLM) as an exposure point concentration (EPC) for each. The EPC of chemicals in the various media were dependent on Study Area, Project Phase, and Assessment Scenario.

Human receptors who may receive chemical exposure were considered to be those who may work within the Operations Area of the Project, live in the vicinity of the Project, or who may visit the area surrounding the Project to practice their traditional use of land and resources including fishing, hunting, harvesting/gathering of plant material and spiritual/cultural practices. Therefore, the indicators used for the assessment of residual adverse effects were Project Workers, Residents, and Visitors/Harvesters.

The ERA considered 14 valued ecological components (including mammals and birds) which were used as indicators in the assessment of residual adverse effects.

## Residual Adverse Effects, Cumulative Effects and Significance Assessments

Contaminants of concern (COCs) were selected if their exposure point concentration exceeded its federal criteria or guideline. In the absence of a federal criteria/guideline, provincial criteria/guidelines/standards

were selected. For all COCs selected, a supplemental screening was conducted specific to human health and ecological receptors, in the HHRA and ERA, respectively. Where the EPC of a COC exceeded its supplemental screening value protective of human health or ecological receptors it was carried forward into the HHRA or ERA for a quantitative risk assessment and assessment of residual adverse effects via the sum of all pathways, cumulative effects, and significance.

A residual adverse effect is defined when the risk for the Project Assessment Scenario (i.e. Project Alone + Base Case) via the sum of all operable pathways, exceeds the acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than Base Case, then the residual effect would not be adverse. The evaluation of residual adverse effects has focused on the Project Assessment Scenario recognizing that individuals cannot be exposed to the Project Alone Assessment Scenario under real world conditions. For human health exposure to criteria air contaminants (CACs) the only operable pathway is via the inhalation of air pathway and therefore residual adverse effects were characterized based on the inhalation pathway alone. Whereas, for inorganic metals (and methylmercury) human exposure may be via the inhalation and also via direct contact with soil, water, Project-specific media and ingestion of country foods, therefore residual adverse effects are characterized based on the sum of all operable exposure pathways.

In keeping with the EIS Guidelines for the Goliath Gold Project, the estimated potential risk via the sum of all operable exposure pathways is based upon the predictions that incorporate the mitigation measures described in the revised EIS (April 2018). In keeping with risk assessment methodology, the residual adverse effects for have been identified in the absence of risk management measures, however the implementation of a Health and Safety Plan at the Goliath Gold Project will be a mandatory requirement. Where residual effects are identified (Section 4.5), as per the EIS guidelines for the Goliath Gold Project, they were carried forward to for an assessment of cumulative effects (Section 4.7) and determination of significance (Section 4.8).

## Results of the Human Health Risk Assessment

### Criteria Air Contaminants via Inhalation of Air

The results of the HHRA screening, identified that three (3) valued components/criteria air contaminants; nitrogen dioxide, and both fractions of particulate matter ($NO_2$, $PM_{10}$ and $PM_{2.5}$) exceeded their respective ambient air quality criteria inside the Operations Area and only during the active phases of mining, thereby indicating that potential risk to Project Workers via the inhalation pathway may not be considered negligible. At the request of Health Canada and the Agency, diesel particulate matter (DPM) was also included in the health assessment even though there are no federal or provincial criteria available within Canada. It should be noted that air quality is not typically modelled within the Property Boundary as part of the EA process unless sensitive receptors are present, as the federal and provincial criteria are only applicable at the Property Boundary or sensitive receptor locations. There are no sensitive receptors located within the Property Boundary of the Goliath Gold Project, however at the continued request of the Agency and Health Canada, modelling inside the Property Boundary was performed and used to determine the 95$^{th}$ UCLM concentrations. A Health and Safety Plan including the prescribed use of personal protective equipment (including but not limited to dust masks and other similar equipment) will be implemented for all Project Workers of the Goliath Gold Project. The Health and Safety Plan will serve as an appropriate risk management/ mitigation measure to mitigate any adverse health effect. With a

Health and Safety Plan implemented as a risk management measure, exposure via the inhalation pathway is considered negligible and no residual adverse effects are identified to Project Workers.

Concentrations of all CACs modelled within the LSA (including areas within the Property Boundary) and the Village of Wabigoon were below their criteria protective of human health, and the potential risk associated with exposure to DPM was determined to be essentially negligible. Therefore, health risks to residents or visitors/ harvesters who may practice traditional land and resource use are considered essentially negligible. No residual adverse effects were identified. Although the results of the HHERA do not indicate that risk management or mitigation measures are required during traditional land and resource use, as part of the sign in and access policy, Treasury Metals will offer appropriate personal protective equipment to those who prefer to wear it while within the Property Boundary.

### Contaminants of Concern via all Operable Exposure Pathways

The results of the HHERA screening identified 14 contaminants of concern/valued components in soil, air, water and/or Project-specific media based on exceedances of their respective criteria/ guidelines/ standards. All 14 were carried forward for a quantitative human health risk assessment and assessment of residual adverse effects, cumulative effects, and significance (where required).

The results of the HHRA identified residual adverse effects for three of the valued components; arsenic, zinc, and thallium. Residual adverse effects for human health were identified to both the resident and visitor/harvester receptors for thallium (non-cancer risk), zinc (non-cancer risk), and arsenic (cancer risk). Ingestion of country foods contributed the highest proportion to the overall characterization of residual adverse effects via the sum of risk from all operable exposure pathways thallium and zinc (Figure 1). Direct contact with arsenic in surface water contributed the highest proportion to the overall characterization of residual adverse effects of arsenic, although the concentration of arsenic in the water bodies did not exceed PWQO or Health Canada's maximum acceptable criteria for drinking water (Figure 1). The source of arsenic in the surface water bodies is not anthropogenic, rather a consequence of the natural geology of the region which is a common occurrence in Northern Ontario. A detailed follow up program has been designed to address the uncertainties associated with the HHRA, however at this time, potential risks to human receptors that may live or practice traditional land and resource use in areas surrounding the Goliath Gold Project are anticipated to be essentially negligible.

The country foods assessment relied solely on the use of modelled chemical concentration data as a baseline country foods study was not completed in support of the revised EIS (April 2018), as such there are uncertainties associated with the predictions which are likely to overestimate the determined residual adverse effects. A detailed follow up program has been provided in the Final Goliath Gold Follow Up Program Addendum to verify the predictions related to country foods and other pathways used in the assessment of residual adverse effects on human health. The results of the HHRA indicated that there would be no residual adverse effects to a Project Worker with the implementation of a Health and Safety Plan which includes the prescribed use of personal protective equipment such as dust masks/respirator, long pants and sleeves, and gloves when working within the Operations Area of the Project.

**Figure 1. Relative Contribution to Residual Adverse Effects via all Operable Exposure Pathways**

The incremental risks associated with the Project relate to the exposure of country foods to the media present within the operations area (e.g., TSF supernatant water and waste rock during the active phases of the Project). The country foods affected by these Project media are restricted to the local study area and are unlikely to be exposed to contaminants from other Projects. In the case of human consumption, it is reasonable that humans could consume country foods from other areas within the larger region. However, this consumption would offset the consumption of food potentially affected by the Goliath Gold Project, thereby reducing the potential risk associated with the Goliath Gold Project. Therefore, cumulative effects associated with the identified residual adverse effects of the Project on human health (i.e., thallium, zinc, and arsenic) via the country foods pathway are not likely to occur.

As there were residual adverse effects (effects that remain after the implementation of mitigation and risk management measures), a determination of magnitude was done in accordance with Section 13.1 of the EIS Guidelines (CEAA, 2013). The EIS Guidelines go on to describe the elements that should be considered when determining environmental significance under CEAA 2012. These include the following:

- Magnitude;
- Geographic extent;
- Timing and duration;
- Frequency; and

- Reversibility.

In assigning levels of magnitude, the thresholds set out in Table 1.

**Table 1: Definitions for Levels of Magnitude (Human Health)**

| | I | II | III |
|---|---|---|---|
| Non-Cancer Risk | Base Case HQ and Project Case HQ are within 1 order of magnitude | Project Case HQ is between 1 and 2 orders of magnitude higher than Base Case HQ | Project Case HQ is more than 2 orders of magnitude higher than Base Case HQ |
| Cancer Risk | Base Case ILCR and Project Case ILCR are within 1 order of magnitude | Project Case ILCR is between 1 and 2 orders of magnitude higher than Base Case ILCR | Project Case ILCR is more than 2 orders of magnitude higher than Base Case ILCR |
| Lead Risk | Base Case MOE and Project Case MOE are within 1 order of magnitude | Project Case MOE is between 1 and 2 orders of magnitude less than Base Case MOE | Project Case MOE is more than 2 orders of magnitude lower than Base Case MOE |
| NotesES: | | | |
| A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. | | | |

The significance assessment determined that all of the residual adverse effects were classified as having magnitude of Level I. There was no requirement to classify the other assessment measures. Effects of a Level I magnitude are not considered significant.

## Results of the Ecological Risk Assessment

The results of the HHERA screening identified 14 contaminants of concern/valued components in soil, air, water and/or Project-specific media based on exceedances of their respective criteria/guidelines/standards. All 14 were carried forward for a quantitative ecological risk assessment and assessment of residual adverse effects, cumulative effects, and significance (where required).

The results of the ERA identified residual adverse effects for six (6) of the valued components; aluminum, antimony, arsenic, lead, thallium, and zinc to select mammals and birds, but only within the Operations Area of the Project. There were no residual adverse effects identified to any ecological receptor in the local study area or the Village of Wabigoon. This result indicates that the Goliath Gold Project is unlikely to change the ability of Indigenous community members to practice their traditional land and resource use as the Project is not predicted to have a meaningful effect on the health of ecological receptors on those locations.

The ERA was conducted based on a single line of evidence approach and, in all cases modelled or predicted data. As per the Federal Contaminated Sites Action Plan (FCSAP) Guidance for completing an ERA, a multiple line of evidence approach should be applied prior to accepting the results of an ERA and implementing risk management measures. As such, as part of the follow up programs for wildlife, migratory birds, and species at risk, exposure of mammals and birds to the onsite structures (waste rock storage area, TSF supernatant water, pit lake) should be confirmed prior to requirement to implement risk management measures. Should the follow up monitoring indicate exposure at a frequency that may pose

ecological effects, then risk management measures including fencing, and bird deterrent flags will serve as appropriate mitigation measures to effectively reduce exposure and subsequently potential risk if required. At this time, no potential risk to mammals and birds via exposure to chemicals in Project-Specific media within the Operations Area is anticipated.

The incremental risks associated with the Project relate to the exposure of ecological receptors to the media present within the operations area (e.g., TSF supernatant water and waste rock during the active phases of the Project). The ecological receptors affected by these Project media are restricted to the local study area and are unlikely to be exposed to contaminants from other Projects. Therefore, cumulative effects associated with the identified residual adverse effects of the Project on ecological receptors are not likely to occur.

As there were residual adverse effects (effects that remain after the implementation of mitigation and risk management measures), a determination of magnitude was done in accordance with Section 13.1 of the EIS Guidelines (CEAA, 2013).

In assigning levels of magnitude, the thresholds set out in Table 2.

**Table 2: Definitions for Levels of Magnitude (Ecological Receptors)**

| | I | II | III |
|---|---|---|---|
| Ecological Risk | Base Case EHQ and Project Case EHQ are within 1 order of magnitude | Project Case EHQ is between 1 and 2 orders of magnitude higher than Base Case EHQ | Project Case EHQ is more than 2 orders of magnitude higher than Base Case EHQ |
| NOTES: | | | |
| A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. | | | |

As the residual effects identified were all classified as having magnitudes of Level I there was no requirement to classify the other assessment measures. Effects of a Level I magnitude are not considered significant.

## Follow Up Program and Risk Communication Strategy

The country foods assessment and quantitative ecological risk assessment relied solely on the use of modelled chemical concentration data as a baseline country foods study was not completed in support of the revised EIS (April 2018), as such there are uncertainties associated with the predictions which are likely to overestimate the calculations used to determine residual adverse effects. A detailed follow up program has been provided in the Final Goliath Gold Follow Up Program Addendum to verify the predictions related to chemical concentrations in plants and soil organisms and mammals and birds used in the assessment of residual adverse effects on human health and ecological receptors. As per the Federal Contaminated Sites Action Plan (FCSAP) Guidance for completing an ERA, a multiple line of evidence approach should be applied prior to accepting the results of an ERA and implementing risk management measures. As such, as part of the follow up programs for wildlife, migratory birds, and species at risk, exposure of mammals and birds to the onsite structures (waste rock storage area, TSF supernatant water, pit lake) should be confirmed prior to requirement to implement risk management measures.

As part of the Round 2 process, Treasury Metals have advanced their engagement with all Indigenous stakeholders including Métis Nation of Ontario (MNO), Asubpeeschoseewagong Netum Anishinabek (ANA) (previously referred to as Grassy Narrows First Nation), Naotkamegwanning First Nation (NFN), Eagle Lake First Nation (ELFN) and Wabigoon Lake Ojibway Nation (WLON). Treasury Metals has continued dialogue with MNO, ANA, NFN, ELFN, and WLON as it relates to the potential effects of the Project, capacity for informed dialogue, acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. Treasury Metals in good faith has proposed funding agreements to allow for continued dialogue, and execution of critical support items to the development of the Project (TKLUS). Information from formal and informal traditional knowledge and traditional land and resource use studies or workshops from other Indigenous communities will be used to inform management plans and amendments to the follow up programs. Treasury Metals recognizes that the perception of risk, safety, and well-being is a concern to members Indigenous communities and has proposed to work with each Indigenous stakeholder community to develop a risk communication plan to help mitigate the perceptions of risk, safety and well-being associated with the Goliath Gold Project.

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Appendix V Model Outputs (HHRA)
Appendix VI Model Outputs (ERA)

## List of Acronyms and Abbreviations

| | |
|---|---|
| AAQC | Ontario Ambient Air Quality Criteria |
| AC | Aboriginal Consultation |
| AE | Atmospheric Environment |
| ANA | Asubpeeschoseewagong Netum Anishinabek (ANA) (previously referred to as Grassy Narrows First Nation) |
| APV | Aquatic Protection Value |
| AWQC | ambient water quality criterion |
| BMDL | benchmark dose limit |
| B-Pb | blood lead |
| BW | Body Weight |
| CAAQS | Canadian Ambient Air Quality Standards |
| CAC | Criteria Air Contaminants |
| CCC | continuous chronic criteria |
| CCME | Canadian Council of Ministers of the Environment |
| CEAA | Canadian Environmental Protection Agency |
| CKD | chronic kidney disease |
| CO | Carbon Monoxide |
| COC | Contaminant of Concern |
| COPC | Chemical of Potential Concern |
| CSM | Conceptual Site Model |
| CWQG | Canadian Water Quality Guidelines |
| DFMC | Dryden Forest Management Company Limited |
| DPM | Diesel Particulate Matter |
| DQRA | Detailed Quantitative Risk Assessment |
| EA | Environmental Assessment |
| Eco-SSL | Ecological Soil Screening Level |
| EFSA | European Food Safety Authority |
| EHQ | Ecological Hazard Quotient |
| EIS | Environmental Impact Statement |
| ELFN | Eagle Lake First Nation |

| | |
|---|---|
| EPC | Exposure Point Concentration |
| ERA | Ecological Risk Assessment |
| FCSAP | Federal Contaminated Sites Action Plan |
| FMP | Forest Management Plans |
| FNFNES | First Nations Food, Nutrition & Environment Study |
| GFR | glomerular filtration rate |
| GW | Groundwater |
| HC | Health Canada |
| HE | Human Environment |
| HHERA | Human Health and Ecological Risk Assessment |
| HHRA | Human Health Risk Assessment |
| HQ | Hazard Quotient |
| ILCR | Incremental Lifetime Cancer Risk |
| IR | Information Request |
| IRIS | Integrated Risk Information System |
| JECFA | Joint FAO/WHO Expect Committee on Food Additive |
| KM | Kilometers |
| LOEL | Lowest Observable Effect Level |
| LSA | Local Study Area |
| MAFA | Moose Aquatic Feeding Aras |
| MECP | Ontario Ministry of Environment, Conservation and Parks |
| MENDM | Ontario Ministry of Energy Northern Development and Mines |
| MNO | Métis Nation of Ontario |
| MOE | Margin of Exposure |
| MOECC | Now MECP. Formally Ontario Ministry of Environment and Climate Change |
| MPOI | Maximum Point of Impingement |
| MW | Mine Waste |
| NFN | Naotkamegwanning First Nation |
| NO2 | Nitrogen Dioxide |
| NOEL | No Observable Effect Level |
| OMNRF | Ontario Ministry of Natural Resources and Forestry |
| PM | Particulate Matter |
| PM10 | Particulate Matter 10 micrometers or less |
| PM2.5 | Particulate Matter 2.5 micrometers or less |
| PPE | Personal Protective Equipment |
| PQRA | Preliminary Quantitative Risk Assessment |
| PWQO | Provincial Water Quality Objectives |
| RMM | Risk Management Measure |
| RQD | Rock Quality Designation |
| SAR | Species at Risk |

| | |
|---|---|
| SBP | systolic blood pressure |
| SLRA | Screening Level Risk Assessment |
| SO2 | Sulfur Dioxide |
| SQG | Soil Quality Guideline |
| SW | Surface Water |
| TKLU | Traditional Knowledge and Land Use |
| TKLUS | Traditional Knowledge and Land Use Study |
| TMI | Treasury Metals Incorporated |
| Treasury Metals | Treasury Metals Incorporated |
| TRV | Toxicity Reference Value |
| TSF | Tailings Storage Facility |
| TSP | Total Suspended Particulate |
| U.S. EPA | United States Environmental Protection Agency |
| UCLM | Upper confidence Limit of the Mean |
| VC | Valued Component |
| WHO | World Health Organization |
| WLON | Wabigoon Lake Ojibway Nation |
| Wood | Wood Environment and Infrastructure Solutions (Mississauga) |
| WRSA | Waste Rock Storage Area |

## List of Units

| | |
|---|---|
| µg/g | microgram per gram (equal to ppm) |
| µg/L | microgram per litre |
| µg/m$^3$ | micrograms per cubic meter |
| g/m$^2$/30 days. | grams per square meter per 30 days |
| KM | Kilometers |
| m | meters |
| mg/kg | miligram per kilogram (equal to ppm) |
| mg/kg b.w. day$^{-1}$ | miligram per kilogram of body weight per day |
| mg/L | miligram per litre |
| ppm | parts per million |
| ppm | parts per billion |
| TPD | tonnes per day |

# 1.0 Introduction and Study Objectives

Treasury Metals Inc. (Treasury Metals) is proposing to develop the Goliath Gold Project (the Project) and associated infrastructure near Dryden, Ontario. The Project is located within the Kenora Mining Division in northwestern Ontario. The Project site is approximately 4 kilometers (km) northwest of the village of Wabigoon, 20 km east of Dryden and 2 km north of the Trans-Canada Highway 17 (Figures 1-1 and 1-2). The Project is located within the Hartman and Zealand townships. Treasury Metals has been exploring the Project site since 2008 and has commenced extensive environmental, geotechnical, metallurgical, engineering, socio-economic, and logistical studies in order to advance the Project towards commissioning and operation. The purpose of the Project is to extract gold for sale on the open market by mining gold-bearing ore and producing doré product at an onsite gold processing facility. The overall Operations Area of the Goliath Gold Project is relatively small compared to other mining projects in northern Ontario and will cover approximately 310 ha during the maximum of extent of Operations. The entire project footprint (Operations area + office areas) of the Project is situated on lands that are either patented or leased (mining rights and surface rights) to Treasury Metals (Figure 1-3).

The Project can be defined using the following four phases and associated temporal boundaries: Site Preparation and Construction (2 years), Operations (11 to 12 years), Closure (3 years), and Post-Closure (17 years). The Site Preparation and Construction phase of the Project will consist of the construction of infrastructure and water management systems for the environmental safety of areas surrounding the Project. The construction of the perimeter runoff and seepage collection ditch will be staged to enclose the areas with active earthworks, and will collect and hold the runoff water from those areas under initial phases of construction. Surface water runoff will be prevented from entering the open pit during normal Operations by means of a field-fit berm and/or ditch. This water will be collected and will then form part of the recycled water used for processing in the plant facility. The Operations phase of the Project will consist of open pit mining, underground development, ore processing, and storage of waste rock, tailings, and low-grade ore. The process plant will operate at approximately 2,700 tonnes per day to process a total of approximately 5.5 million tonnes of open pit ore and 3.5 million tonnes of underground ore over the 11 to 12-year operational life of the mine. During Operations, excess water not required in the process will be treated to meet the Provincial Water Quality Objectives (PWQO) or background concentrations, if background levels are above the PWQO before being discharged as effluent to Blackwater Creek. Where there is no PWQO for a parameter, the commitment will be to meet the Canadian Water Quality Guidelines (CWQG). For total mercury, the commitment will be that effluent discharged to Blackwater Creek will meet background concentrations for that watercourse. Background concentrations for Blackwater Creek are defined as the 75$^{th}$ percentile of the available monitoring data, in accordance with the Ministry of Environment, Conservation, and Parks (MECP) (formally the Ontario Ministry of Environment and Climate Change (MOECC)) receiving water assessment policy.

Closure of the Project will be governed by the Ontario Mining Act (the Act) and its associated regulations and codes. The objective is to reclaim the Project site area to a naturalized and productive biological state when mining ceases. The Act requires that a detailed Closure Plan be filed for any mining project before the Project is initiated. Financial assurance is required before any substantive development takes place to ensure that funds are in place to carry out the Closure Plan. During the Closure phase, Treasury Metals has committed to reclaiming the site and restoring the land to a naturalized state per the mine Closure Plan approved by the Ministry of Energy, Northern Development and Mines (MENDM) (formally the Ministry of Northern Development and Mines (MNDM). At Closure, dewatering activities will cease and the open pit

will be allowed to flood. Modelling has indicated that it should take between 6 and 8 years for the open pit to fully fill. Until such time that the final pit is fully flooded and the Canadian Environmental Assessment Agency (the Agency) or other responsible authorities deem appropriate to ensure Closure of the mine is performing as predicted, Treasury Metals will hold the site in care and maintenance. Environmental monitoring and potential effluent quality management will occur during this passive period of reclamation, which is anticipated to take approximately 17 years. The pit-lake will be monitored as it is filling to determine whether batch treatment will be required to ensure the water meets PWQO, or background if background levels exceed the PWQO, prior to the discharge from the pit-lake to a tributary of Blackwater Creek. Treasury Metals also expect that monitoring of the pit-lake will continue for a period of time after flooding to determine whether additional batch treatments will be required to ensure the water released from the open will meet effluent limits.

The Project is located within the area covered by Treaty No. 3 (Figure 1-4). Treaty No. 3 includes 28 First Nation communities and a number of villages and towns including Wabigoon, Dryden, Eagle River, Vermillion Bay, Sioux Lookout, Atikokan, Fort Frances, and Kenora. The Project is also located within an area identified by the Métis Nation of Ontario as the Treaty No. 3/Lake of the Woods/Lac Seul/Rainy River/Rainy Lake traditional harvesting territories, also named Region 1. Treasury Metals has been participating in meaningful engagement activities with key Indigenous stakeholder groups since 2008 and has obtained valuable information regarding traditional knowledge and information about the current use of land and resources for traditional purposes. The locations of the Indigenous Communities Treasury Metals has been engaging with is shown on Figure 1-5. Treasury Metals recognizes that Indigenous people live, work, hunt, fish, trap, drink water, and gather/harvest throughout their lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical, and economic well-being. Further to this, Treasury Metals recognizes that these traditional lands are inextricably connected to an Indigenous community's identity and culture, inclusive of ceremonial and spiritual recognition. Treasury Metals, in respect to this, understands the importance of assessing any potential effects of the Project. Treasury Metals is aware that many the Indigenous communities are particularly concerned with the potential effects of the Project on their health including how the Project may affect their drinking water, country foods (fish, berries, wild game), and air quality.

Treasury Metals submitted a Project Description to the Agency on November 26, 2012 and on January 18, 2013 received draft guidelines for the preparation of an Environmental Impact Statement (EIS) for an environmental assessment conducted pursuant to the Canadian Environmental Assessment Act, 2012 (CEAA 2012). Treasury Metals submitted an EIS report assessing the potential effects of the Project on the environment. The Agency raised 859 questions as part of the Round #1 Information Request process including 49 that were specific to the Human Health and Ecological Risk Assessment (HHERA) prepared by Tetratech in 2014 and submitted as part of the original EIS submission (Appendix W). Treasury Metals submitted a revised EIS to the Agency on September 5, 2017, and the Agency identified a need to see further revision to the revised EIS, as well as expanded responses to 287 of the 859 information request responses. Of the 287 questions raised by the Agency, 29 were related to the HHERA. With the assistance of Wood (formally Amec Foster Wheeler), Treasury Metals provided expanded responses to all 287 questions flagged by the Agency. This included a limited amount of supplemental information with respect to the original HHERA to support the latest re-submission of the EIS (dated April 20, 2018) in an effort to move the Project forward into technical review. This supplemental information regarding the human health risk assessment was presented in the revised responses, and in Section 6.19 of the revised EIS. However, the April 20, 2018 submission to the Agency did not include a new comprehensive

standalone HHERA document completed in accordance with current Agency, Health Canada, Environment Canada and Climate Change, Department of Oceans and Fisheries, and/or Parks Canada Agency regulatory requirements.

This 2018 HHERA Report the new stand-alone risk assessment completed in accordance with current regulatory guidance and risk assessment practices as required for the Project to achieve final approval under CEAA, 2012.

## 1.1 Study Objectives

The objective of the HHERA is to assess the potential health risks associated with the Project in accordance with the current regulatory guidance on environmental assessments (EAs) and risk assessment to support Treasury Metals in achieving final Project approval under *CEAA, 2012*.

The HHERA will be conducted to evaluate potential health risks to humans (workers, Residents, Visitors) and ecological receptors (terrestrial and aquatic wildlife, invertebrate, and vegetation communities) associated with the baseline conditions in the Project area, the Project alone, and the combination of baseline and Project, as per Agency EA guidance. Potential risks associated with the Project alone, and the combination of baseline and Project are assessed qualitatively and/or quantitatively. Potential risks associated with the combined effects of the baseline conditions, the Project, as well as reasonable foreseeable projects and future activities in the region will be discussed qualitatively only.

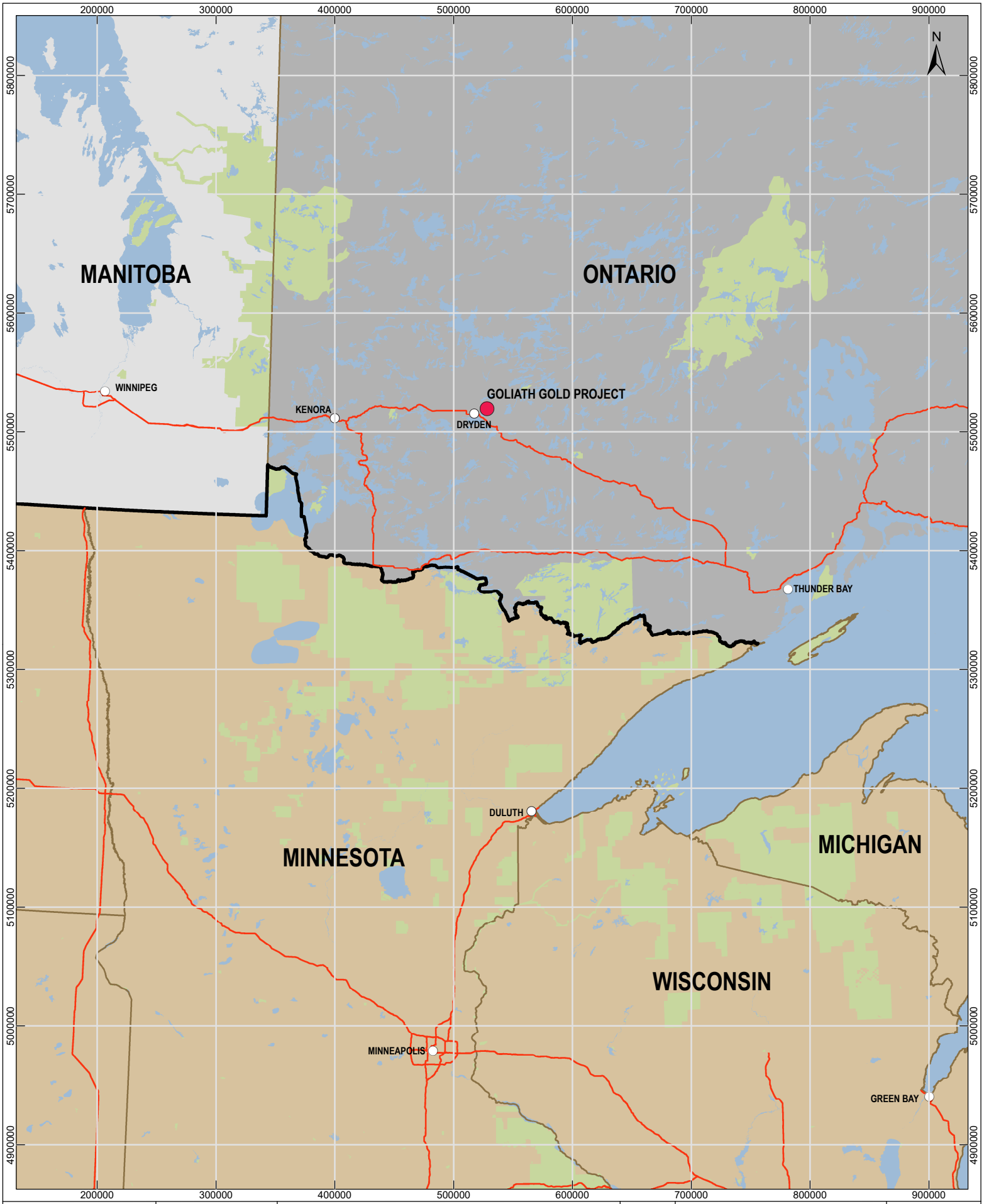
For human health and ecological receptors, a residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada/Canadian Council of Ministers of the Environment (CCME) acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than in the Base Case, then the residual effect would not be adverse. The evaluation of residual adverse effects has focused on the Project Assessment Scenario recognizing that individuals and ecological receptors cannot be exposed to the Project Alone Assessment Scenario under real world conditions. In keeping with the EIS Guidelines for the Goliath Gold Project, the estimated potential risk via the sum of all operable exposure pathways is based upon the predictions that incorporate the mitigation measures described in the revised EIS (April 2018). In keeping with risk assessment methodology, the residual adverse effects for have been identified in the absence of risk management measures.

## 1.2 Regulatory Context

The HHERA has be conducted according to industry accepted risk assessment practices and methodologies and follows guidance published and endorsed by government agencies. This approach is consistent with previous projects in Ontario that have been reviewed by the Agency. The following guidance documents were relied upon in the HHERA:

- Part I: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA) Version 2.0 (Health Canada 2012a);
- Part II: Health Canada Toxicological Reference Values (TRVs) and Chemical-Specific Factors Version 2.0 (Health Canada 2010a);

- Part V: Guidance on Human Health Detailed Quantitative Risk Assessment For Chemicals ($DQRA_{CHEM}$) (Health Canada 2010b);
- Supplemental Guidance on Human Health Risk Assessment for Country Foods ($HHRA_{Foods}$) (Health Canada, 2010c);
- Supplemental Guidance on Human Health Risk Assessment of Indoor Settled Dust ($HHRA_{DUST}$) (Health Canada 2018);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality (Health Canada 2016);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality (Health Canada 2016);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods (Health Canada 2018)
- A Framework for Ecological Risk Assessment- Canadian Council of Ministers of the Environment (CCME 1996);
- Federal Contaminated Sites Action Plan (FCSAP) Ecological Risk Assessment Guidance (Environment Canada 2012);
- Procedures for the Use of Risk Assessment under Part XV.1 of the Environmental Protection Act (Ministry of Environment, Conservation, and Parks (MECP) (formally the Ontario Ministry of Environment and Climate Change (MOECC)), MECP 2005);
- Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario (Ministry of Environment, Conservation, and Parks (MECP) (formally the Ontario Ministry of Environment and Climate Change (MOECC)), MECP 2011a); and
- Guidance on Human Health Risk Assessment for Environmental Impact Assessment in Alberta (Alberta Health and Wellness 2011).




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Location of the Goliath Gold Project (Regional Scale)

Figure 1-1 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 31/07/2017 |
| GIS: | MP | 31/07/2017 |
| CHECK: | MW | 31/07/2017 |
| REVIEW: | DB | 31/07/2017 |

Canada
Ontario
United States
Population Center
Highway/Interstate
Provincial/State Line
International Boundary

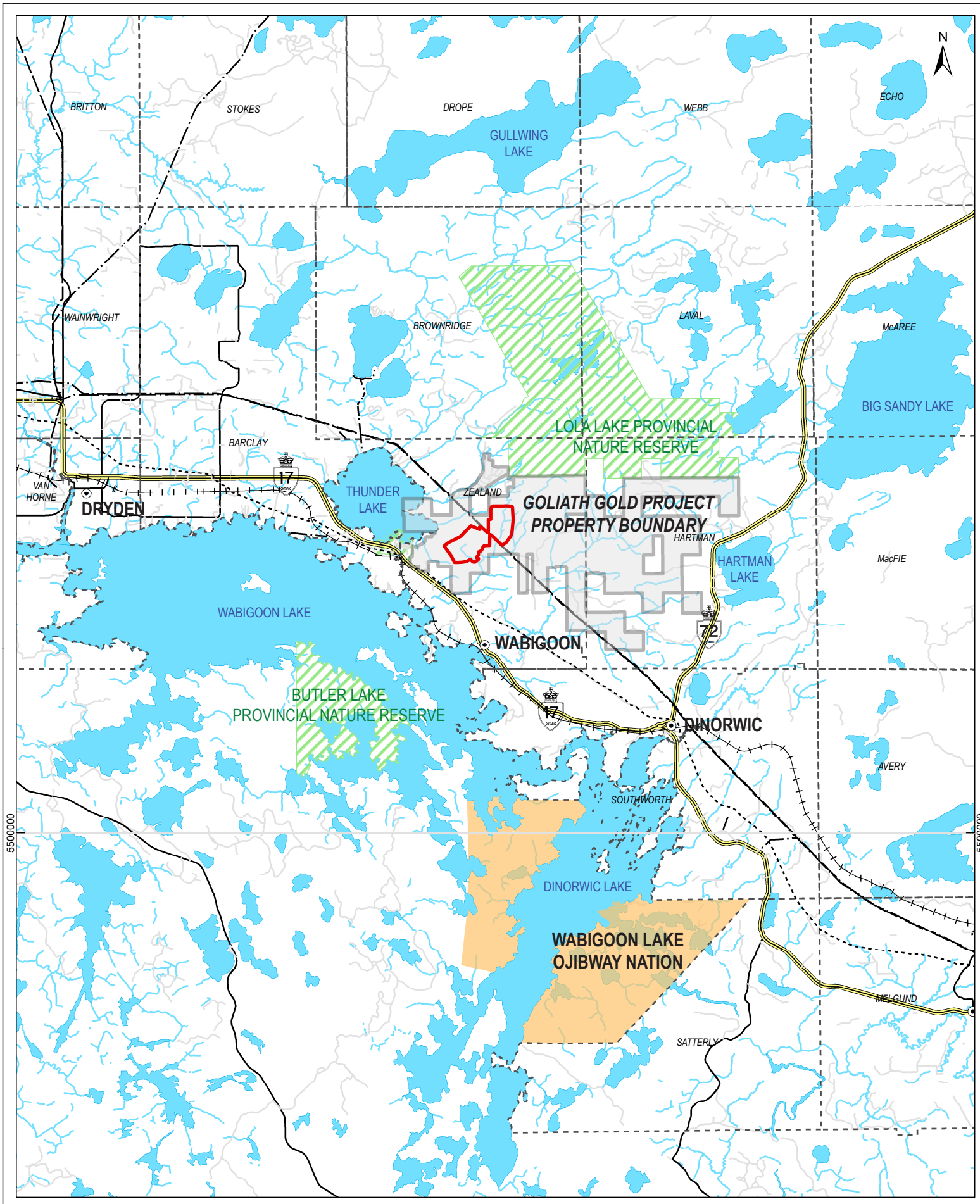
SCALE 1:4,000,000

Coordinate System: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator
Datum: North American 1983

0 100 200
Kilometers

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
All details preliminary and subject to change as engineering designs are updated.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Location of the Goliath Gold Project (Local Scale)

Figure 1-2 | REV.02

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 17/08/2017 |
| GIS: | MP | 17/08/2017 |
| CHECK: | MW | 17/08/2017 |
| REVIEW: | MW | 17/08/2017 |

- Operations Area
- Property Boundary
- Townships
- Indigenous Communities
- Provincial Parks
- Populated Area
- Waterbody
- Watercourse
- Railway
- Arterial Roadway
- Expressway / Highway
- Resource / Recreation

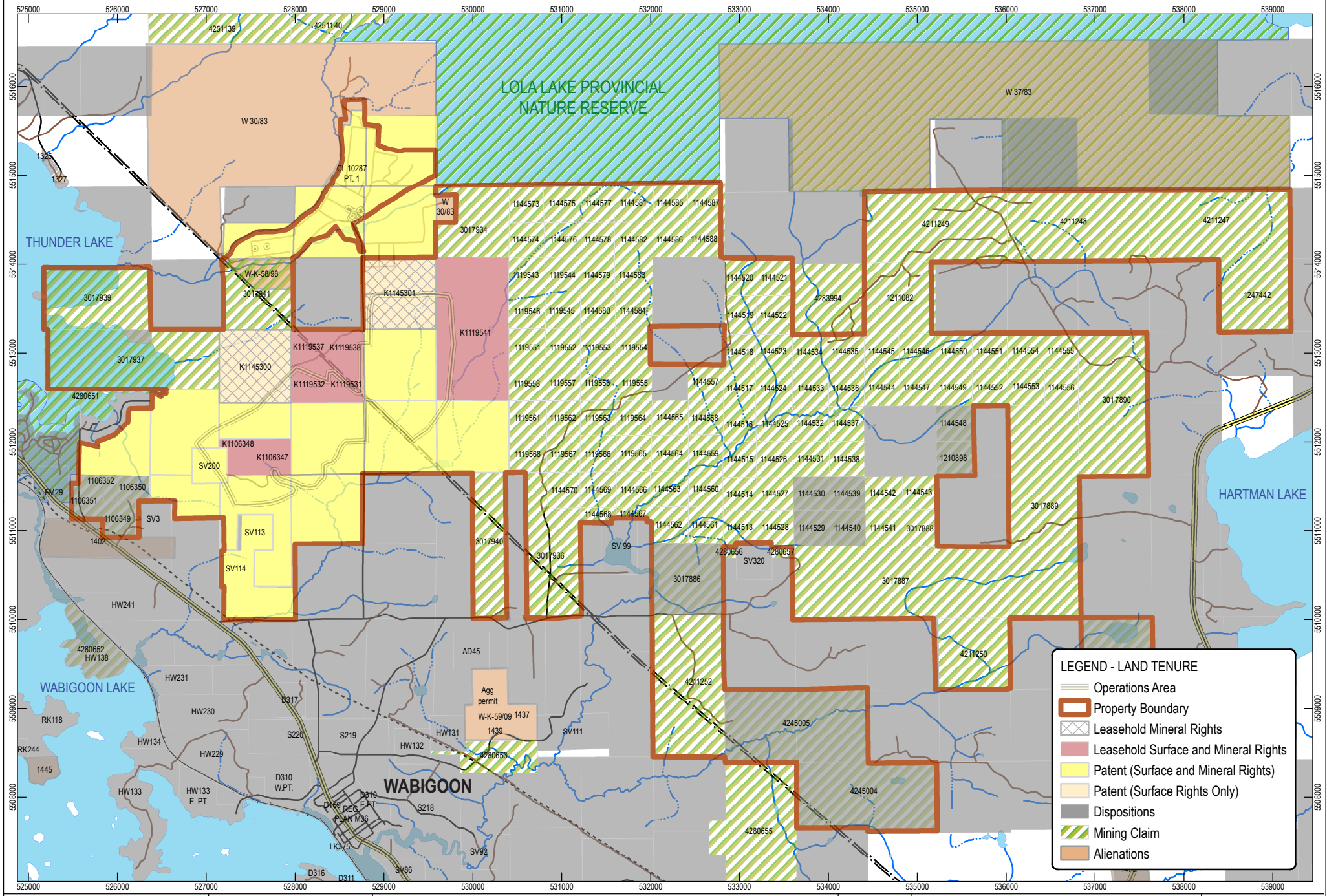
SCALE 1:200,000

Coordinate System: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator
Datum: North American 1983

0 1 2 3 4 5 6 7 8 9 10
Kilometers

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
All details preliminary and subject to change as engineering designs are updated.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Claims and Dispositions
Goliath Gold Project

Figure 1-3 | REV.04

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 28/03/2018 |
| GIS: | MP | 28/03/2018 |
| CHECK: | MW | 28/03/2018 |
| REVIEW: | MW | 28/03/2018 |

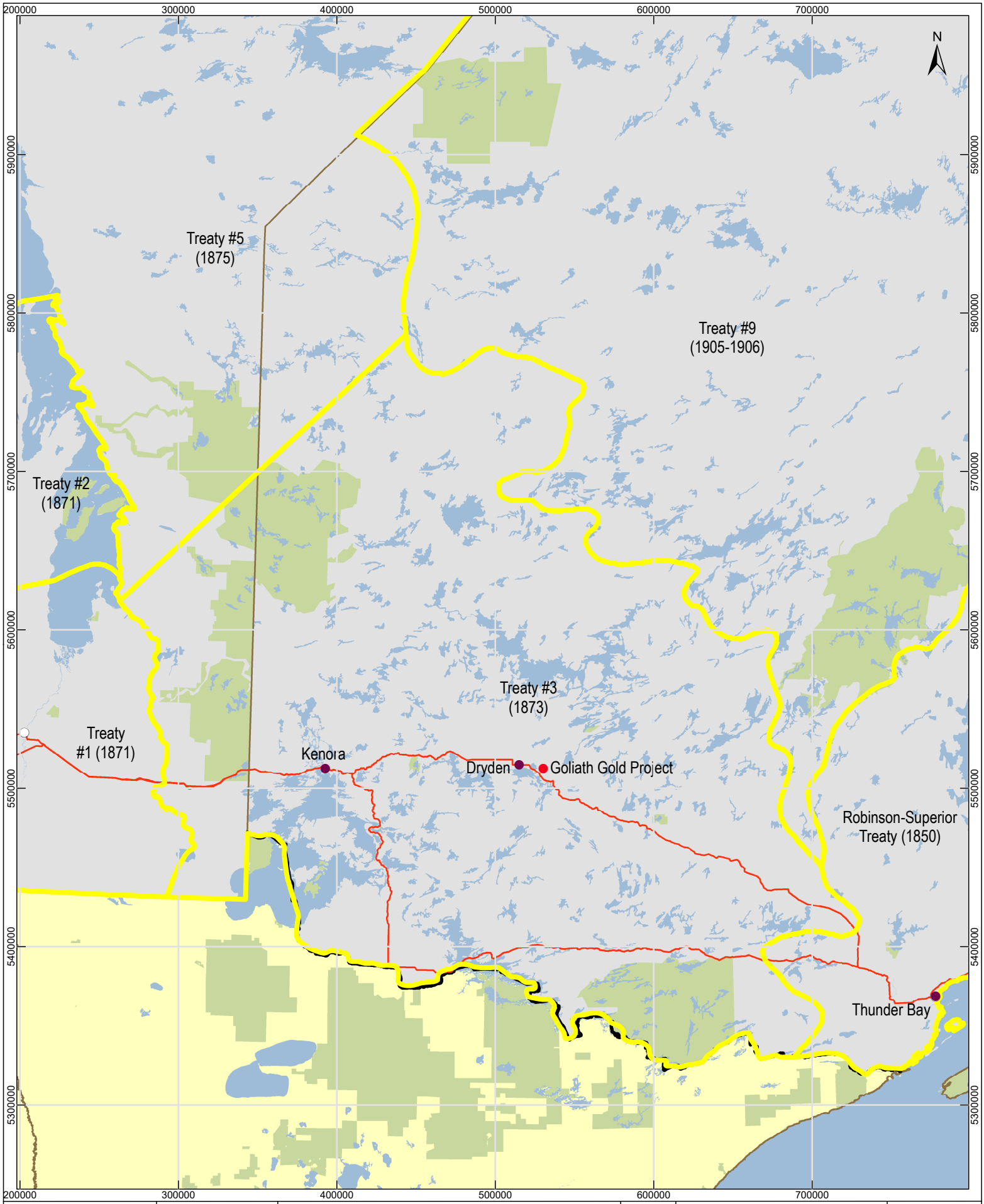
Operations Area
Hydro Line
Natural Gas Pipeline
Railway
Expressway / Highway
Local Road
Resource / Recreation Road
Provincial Parks
Waterbody
Intermittent Watercourse
Permanent Watercourse

SCALE 1:55,000

N

0 3,000
Meters

Base Data:
Treasury Metals Inc., LIO Database
Projection:
NAD83 UTM Zone 15N
Notes:
All details preliminary and subject to change as Project develops




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Treaty Areas - Regional Scale

Figure 1-4 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 18/08/2017 |
| GIS: | MP | 18/08/2017 |
| CHECK: | MW | 18/08/2017 |
| REVIEW: | MW | 18/08/2017 |

Treaty Areas
Canada
United States
Population Center
Highways

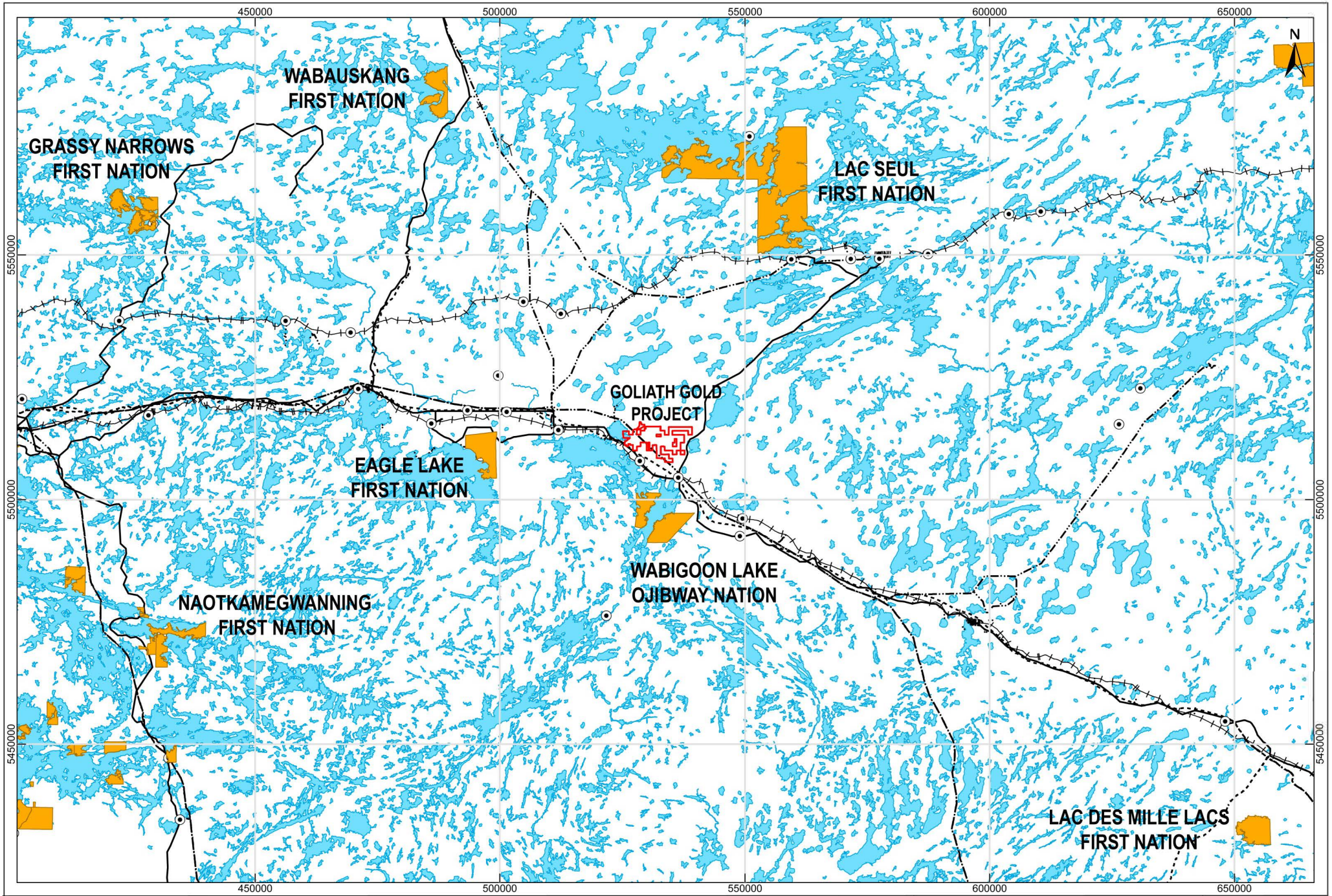
SCALE 1:3,000,000

Coordinate System: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator
Datum: North American 1983

0 100
Kilometers

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
All details preliminary and subject to change as engineering designs are updated.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Indigenous Communities

Figure 1-5 | REV.02

TREASURY METALS Inc

DESIGN: MP 18/08/2017
GIS: MP 18/08/2017
CHECK: MW 18/08/2017
REVIEW: MW 18/08/2017

- Indigenous Communities
- Goliath Property Boundary
- Populated Area
- Hydro Line
- Natural Gas Pipeline
- Railway
- Highway
- Waterbody

SCALE 1:1,000,000

Coordinate System: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator
Datum: North American 1983

0 20 40 60
Kilometers

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
All details preliminary and subject to change as engineering designs are updated.

# 2.0 Overview of the Risk Assessment Process

A human health risk assessment (HHRA) is the process of estimating the nature and probability of adverse health effects in humans who may be exposed to chemicals in contaminated environmental media, now or in the future. An ecological risk assessment (ERA) assesses potential risk to ecological health who may be exposed to chemicals in environmental media.

Where a chemical, route of exposure, and a receptor are all present in an environmental scenario, the potential for health risks also exists (as shown in Figure 2.1-1).

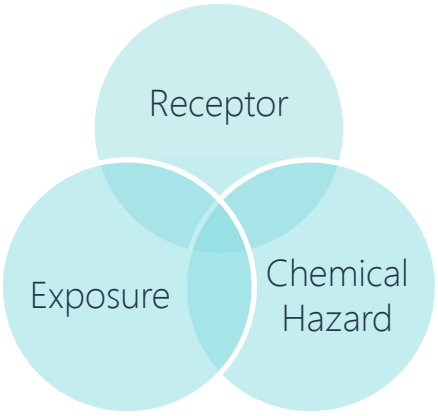



**Figure 2.1-1: Risk Assessment Components**

The risk assessment process involves the following four (4) fundamental steps:

- Problem Formulation;
- Exposure Assessment;
- Toxicity Assessment; and
- Risk Characterization.

## 2.1 Problem Formulation

The problem formulation is the first step of either an HHRA or ERA and involves the identification and screening of the three main components of a risk assessment: chemicals of concern (COCs); exposure pathways; and receptors. Problem formulation provides the framework and methodology for the risk assessment and allows the definition of boundaries for the risk assessment based on scientific rationale.

## 2.2 Exposure Assessment

The exposure assessment is conducted for all relevant chemicals, exposure pathways, and receptors identified in the problem formulation. The exposure assessment involves the estimation of the intake of chemicals of concern by human and ecological receptors. The total estimated intake is calculated via the

sum of intakes from each operable pathway identified in the problem formulation. This step involves the determination of exposure point concentrations of each chemical in the various environmental media either by direct measurement or predictive modelling. The exposure assessment also includes the intake rate of each environmental media by the relevant receptors.

## 2.3 Toxicity Assessment

The toxicity assessment is completed for all relevant COCs identified in the problem formulation and involves the identification of the toxic endpoints for each. It involves the determination of either: a) a maximum dose or concentration each chemical to which a receptor can be exposed without an appreciable amount of adverse health effect occurring (threshold dose or concentration); or b) the relationship between dose and incidence or severity of adverse effect (dose-response identification). In most cases the toxicity assessment involves the selection of a toxicity reference value (TRV) recommended by an appropriate regulatory agency (such as Health Canada, MECP, or CCME). In cases where a regulatory published TRV is not available, a TRV is identified from on an evaluation of the most current state of science based on a review of peer-reviewed manuscripts presenting scientific data.

## 2.4 Risk Characterization

The risk characterization step involves qualitatively and quantitatively evaluating the potential risks to receptors resulting from exposure to each chemical. The risk characterization step is done for all chemicals and exposure pathway/receptor combinations identified in the problem formulation step. The risk characterization involves the following:

- Integration of exposure and toxicity assessments to calculate a risk value;
- Describing the potential risk in terms of magnitude, type and uncertainty; and
- Comparison of the risk value to a regulatory benchmark of risk to determine the level of "acceptability"

Uncertainty is an inherent aspect of the risk assessment process due to necessary assumptions regarding the Goliath Gold Project site, receptor characteristics and mathematical modelling. Uncertainties may arise from a number of areas due to some inherent lack of precision about the true value of a parameter (e.g., body weight, inhalation rate, ingestion rate). In most instances, uncertainties may be accounted for by assuming the most conservative receptor and exposure scenario to exaggerate exposures in order to ensure that risks are not underestimated.

In the framework for HHERA's specific to the Environmental Assessment process, potential risks should be discussed in the context of Assessment Scenario. That is, the potential risks identified for the combination of baseline and Project (i.e., Project Assessment Scenario), should be discussed relative to risks associated with the baseline conditions (i.e., Base Case Assessment Scenario) in the Project area that would occur in the absence of the Project, as well as the risks associate the Project alone (i.e., Project-Alone Assessment Scenario), wherever appropriate. A more detailed description of the Assessment Scenarios is provided in Section 3.2.

For human health and ecological receptors, a residual adverse effect is defined when the risk for the Project Assessment Scenario (i.e. Project Alone + Baseline) via the sum of all operable pathways, exceeds the acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than base, then the residual effect would not be adverse. For human health exposure to criteria air contaminants (CACs) is only operable via the inhalation of air pathway and therefore residual adverse effects were characterized based on the inhalation pathway alone. Whereas, for inorganic metals (and methylmercury) human and ecological exposure may be via the inhalation and also via direct contact with soil, water, Project-specific media and ingestion of country foods, therefore residual adverse effects are characterized based on the sum of all operable exposure pathways.

# 3.0 Study Areas and Assessment Scenarios for the HHERA

## 3.1 Spatial and Temporal Boundaries

### 3.1.1 Spatial Boundaries

Spatial extents for assessing potential human and ecological health risks were chosen to represent the areas where human and ecological receptors would experience the highest magnitude, frequency, and duration of chemical exposure representative of the various phases of the Goliath Gold Project. Human receptors who experience chemical exposure may be those who work within the Operations area of the Goliath Gold Project, live in the vicinity of the Project Boundary, or who visit the area surrounding the Goliath Gold Project to practice traditional land and resources uses including fishing, hunting and harvesting. Ecological receptors may include plants and invertebrates, mammals and birds, and aquatic biota that may reside or pass through the Operations Area of the Goliath Gold Project and areas in close vicinity of the Project Boundary. The area assessed as part of the HHERA is referred to as the HHERA Regional Study Area (RSA). The RSA was further divided into Study Areas to correspond with the current land use and future uses of the land in response to the Goliath Gold Project. Specific factors considered included mining related activities and emissions, areas within Treasury Metals' Property Boundary (Figure 1-2) where current use of land and resources for traditional purposes occurs, and the nearest populated area with critical subgroups of the population.

Based on the current and future uses of the Project Operations area, land use in the vicinity of the Project, and the location of sensitive receptors, the three Study Areas shown in Table 3.1.1-1 were chosen for assessment of potential health risks for the purposes of the HHERA:

**Table 3.1.1-1: Study Areas Used in the Risk Assessment**

| HHERA Study Area Number | Study Area Name | Description | Size (ha) |
|---|---|---|---|
| No. 1 | Operations Area | Area within the operational footprint of the Project, referred to as the Operations area. | 310.0 |
| No. 2 | Local Study Area | Area outside of the Operations area but captures areas within the Property Boundary- represents an area where traditional land and resource use may occur within the Property Boundary | 3,351 |
| No. 3 | Village of Wabigoon | Located approximately 4 kilometers (km) southeast of the Project | 44.3 |

The selected Study Areas of the HHERA are shown on Figure 3.1.1-1, and are described below:

1. **Operations area**: The Operations area (see Figure 3.1.1-1) includes all of the active mining areas associated with the Project. During the active life of the Project (Site Preparation and Construction, Operations, and Closure), access to the Operations Area will be restricted for safety and security reasons. Only employees of Treasury Metals will be allowed within the Operations Area. There are no sensitive/community-based receptors as defined by the CCME within the Operations Area.

2. **Local Study Area**: The LSA corresponds with the LSA used in the revised EIS (April 2018) for evaluating the effects of the Project on wildlife and wildlife habitat, as well as evaluating the effects of the Project on terrestrial vegetation. The LSA excludes the Operations Area but includes areas within the Property Boundary where traditional land and resource use may be practiced. The LSA includes areas within the Property Boundary of the Project (i.e., the lands leased by Treasury Metals, or for which Treasury Metals holds surface and mineral rights), which would continue to be available for traditional uses by members of Indigenous communities. There are no community-based receptors within the Property Boundary, however there are sensitive /community-based receptors outside of the Property Boundary and within Study Area No. 2. There will be a mandatory sign in and access policy to be defined for those who wish to use areas within the Property Boundary to ensure the safety of the public.

3. **Village of Wabigoon**: The Village of Wabigoon is located approximately 4 km to the south of the Project and represents the closest populated community to the Project. All of the Village of Wabigoon is located outside of the Property Boundary. There are sensitive/community-based receptors as defined by the CCME located within the Village of Wabigoon.

In addition to the assessment of potential health risks to members of the general population or common species at the Study Areas presented in the above table, consideration is also given to receptors of the population who may experience a greater risk given their lifestyle and/or behavior characteristics. Critical subgroups may include the following:

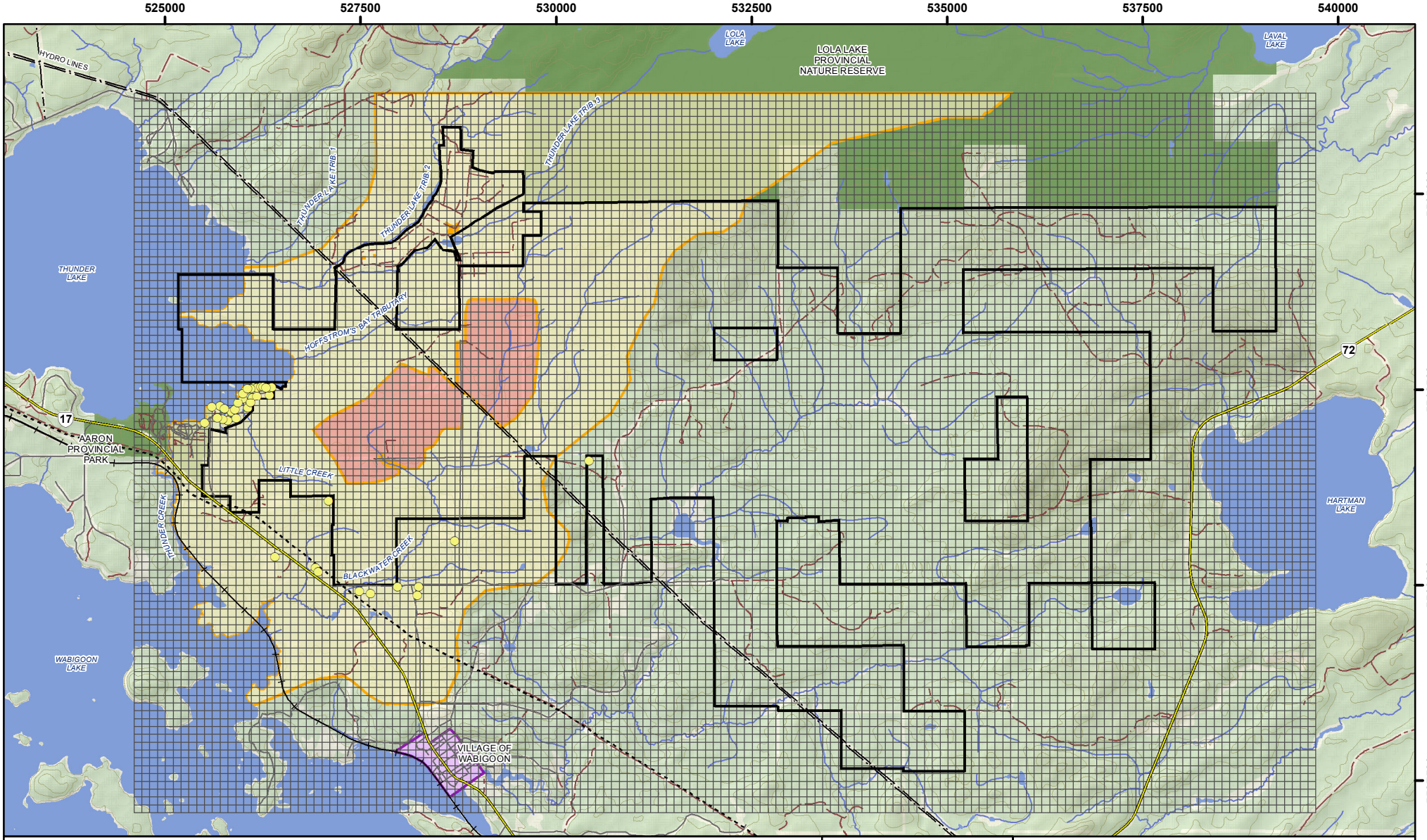
- **Toddlers** — Toddlers are considered to be the more highly exposed human receptors because they eat, drink, and breathe more in proportion to body size, and exhibit behaviours (e.g., hand-to-mouth activity) that increase exposure to media such as soil.

- **Pregnant females** — Assessment of a pregnant female human receptor would be protective of the developmental effect elicited during gestation, but might not be protective of any secondary effects of the chemical that could be elicited during exposure as a child.

- **Indigenous community members** — Treasury Metals recognizes that Indigenous people live, work, hunt, fish, trap, drink water, and gather/harvest throughout their lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical, and economic well-being. Further to this, Treasury Metals recognizes that these traditional lands are inextricably connected to an Indigenous community's identity and culture, inclusive of ceremonial and spiritual recognition. Members of Indigenous communities may use land and resources for traditional purposes, and thus may experience higher levels of exposure than members of the general population (e.g., higher rates of country foods ingestion, or more time spent outdoors). An Indigenous

community member may also include the other critical subgroups noted (e.g., a toddler and/or pregnant female).

- **Species at Risk** — federally protected species at risk require different levels of protection relative to common species.

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## LEGEND

- Air Modelling Grid
- Sensitive Receptors
- Railway
- Hydro Line
- Natural Gas Pipeline
- Highway
- Local Street
- Resource / Recreation Trail
- Provinical Park
- Watercourse
- Waterbody
- Contours (10 m interval)
- Property Boundary

Human Health and Ecological Risk Assessment Study Areas

- 1. Operations Area
- 2. Local Study Area
- 3. Village of Wabigoon

NOTES:
- Topographic data extracted from Land Information Ontario (LIO), MNRF.
- Watercourses represent pre-development conditions based on LIO database, as modified by KBM.

Datum: NAD83
Projection: UTM Zone 15N

0 1 2 4 6 8 10 Kilometres

N W E S

TREASURY METALS Inc. wood.

# GOLIATH GOLD PROJECT

## Human Health and Ecological Risk Assessment Study Areas

PROJECT N°: TC160516 | **FIGURE: 3.1.1-1**

SCALE: 1:68,000 | DATE: August 2018

### 3.1.2 Temporal Boundaries

The temporal boundaries used in the HHERA were selected to be consistent with those used in evaluating the effects of the Project, namely:

- Site Preparation and Construction (2 years);
- Operations (11 to 12 years);
- Closure (3 years); and
- Post-Closure (beyond year 17).

The above phases are deemed suitable to capture all of the environmental effects associated with the Project. Although the majority of activities associated with the Project will occur during the first three phases, some effects will occur during the Post-Closure phase.

Temporal consideration in the HHERA also includes the nature of exposure (acute versus chronic) as well as site-specific and receptor-specific durations over which the chronic exposures will occur.

## 3.2 Assessment Scenarios

### 3.2.1 Base Case Assessment Scenario

The Base Case Assessment Scenario considers potential risk to human and ecological health associated with present, pre-Project conditions, including ambient environmental conditions and existing sources of potential risk (including chemical concentrations in soil, water, air, and country foods). The Base Case Assessment Scenario represents the level of risk that would be experienced in the vicinity of the Project should the Project not proceed.

The Base Case Assessment Scenario is assessed by evaluating the potential risk associated with existing concentrations in chemical media, obtained from the results of monitoring completed in support of the EIS. The use of existing measured data is supplemented by modelled predictions where data gaps have been identified (e.g., baseline chemical concentrations in country foods and ecological receptors).

### 3.2.2 Project Alone Assessment Scenario

The Project Alone Assessment Scenario evaluates potential human and ecological health risks from exposure to predicted chemical concentrations in environmental media as a result of the Project Alone. Chemical concentrations in environmental media are obtained using air, soil, and water data modelled from measured data. The chemical concentrations in Project-specific media such as waste rock, ore (representative of the tailings composition), and tailings storage facility (TSF) supernatant water were measured. Predicted chemical concentrations in country foods and ecological receptors are modelled as part of the HHERA. The Project Alone Assessment Scenario does not consider existing chemical concentrations associated with the Base Case Assessment Scenario.

### 3.2.3 Project Assessment Scenario

The Project Assessment Scenario includes the consideration of the anticipated Project Alone Assessment Scenario conditions in combination with the Base Case Assessment Scenario. This Assessment Scenario evaluates the contributions of the Project in addition to baseline conditions for all phases of the Project defined above, namely: Site Preparation and Construction, Operations, Closure, and Post-Closure. The Project Assessment Scenario represents the levels of exposure that would be experienced in the vicinity of the Project should the Project proceed.

### 3.2.4 Cumulative Effects Assessment Scenario

The Cumulative Effects Scenario will be assessed qualitatively only, where feasible and only for those compounds for which potential for residual health effects are identified. The Cumulative Effects Scenario will consider the potential risks associated with the combined effects of the baseline conditions, the Project, as well as reasonable foreseeable projects and future activities in the region. The objective of this scenario is to ensure that the combined exposures and potential risk associated with all anticipated sources of chemicals to the regional environment are not underestimated.

The approach used for assessing the potential cumulative effects of the Project with respect to human and ecological health is generally consistent with the requirements of CEAA 2012, and follow the procedures set out by the Agency in the document entitled "Technical Guidance for Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act*, 2012" (CEAA, 2014). Additional information is set out in the operational policy statement entitled "Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act*, 2012" (CEAA, 2015). The Cumulative Effects Scenario is consistent with the cumulative effects assessment presented in Section 7 of the revised EIS (April 2018).

#### 3.2.4.1 Present and Future Activities Considered

The following present and future activities were explicitly considered as part of the cumulative effects assessment for the Project as described in Section 7 of the revised EIS (April 2018). These projects were identified by the Agency as part of the Round 1 information requests (TMI_252-CE(1)-02) as having to be explicitly considered as part of the cumulative effects assessment:

- Treasury Metals Inc. exploration program;
- Highway 17;
- Canadian Pacific rail line;
- Forestry Operations by Dryden Forest Management Company;
- Domtar Corp.'s Dryden Pulp Mill;
- Josephine Cone Mine Project;
- Aggregate pits or quarries;

- The 230 kV transmission line proposed by Wataynikaneyap Power; and
- The development of local infrastructure and minor road upgrades in Dryden and Wabigoon.

These projects are discussed briefly below and are shown on the Cumulative Effects Study Area (Figure 3.2.4-1 as originally presented in Section 7 of the revised EIS (April 2018)):

- **Treasury Metals Exploration Program**: During all phases associated with the Project, Treasury Metals may conduct mineral exploration within its Property Boundary (Figure 1-2) to further delineate its deposit or to identify new deposits. Mineral exploration activities could include, but are not limited to; prospecting, surveys and exploration drilling. To the extent possible, these activities would not require the removal of forest cover. Nor would the exploratory drilling work be conducted within wetland areas. Mineral exploration programs could result in effects to the environment which are cumulative with effects from the Project. Accordingly, mineral exploration activities within the Project Property Boundary have been included through this cumulative effects assessment.

- **Highway 17**: King's Highway 17 is part of the Trans-Canada Highway system and is the main Trans-Canada highway through the province of Ontario. It begins at the Ontario/Manitoba boarder approximately 50 km west of Kenora, Ontario, and traverses west until it becomes Highway 417 west of Arnprior, Ontario. Highway 17 passes through the town of Dryden, Ontario and is a major transportation route between Dryden and the proposed Goliath Gold Project. The Ministry of Energy, Northern Development and Mines (MENDM) publishes a list of northern highway projects, including projects along Highway 17 (MNDM, 2016), Upcoming work being done to Highway 17 near the Project includes: resurfacing, culvert replacements at McKenzie Creek and Moose Creek near Dryden, and replacement of a Canadian Pacific Railways overpass near Dinorwic. These projects have been included in the cumulative effects assessment.

- **Canadian Pacific Railway**: The Canadian Pacific Railway is a publicly traded company on the Toronto and New York stock exchanges. It has over 14,000 miles of rail network from Vancouver to Montreal along with rail to a few major industrial centers in the US (Canadian Pacific, 2017). Canadian Pacific Railway has tracks that run proximal to the Project, and generally parallel to Highway 17. An annual vegetation control program is implemented along the tracks to decrease vegetation growth adjacent to the rails.

- **Dryden Forest Management Company Limited**: The Dryden Forest Management Company Limited (DFMC) has managed the Dryden Forest area since it was issued a Sustainable Forest License from the Ontario Minister of Natural Resources and Forestry in 1998. The DFMC has identified through its Ten-year Forest Management Plan, that it plans on logging in areas located between Thunder Lake and Hartman Lake located within the Treasury Metals' Property Boundary between 2016 and 2021 (Dryden Forest Management Company, 2016). The current 10-year Forest Management Plans 2011 to 2021 (FMP) show a planned harvest of approximately 11,952 ha. The FMP are not yet available for the period after 2021.

500000 520000 540000 560000

5560000 5540000 5520000 5500000 5480000 5460000

Cedar Lake
Moose Lake
Thaddeus Lake
Ord Lake
Whitefish Lake
LAC SEUL 28
Cherry Lake
Lynx Lake
Lost Lake
664
Jackfish Lake
Route Lake
Bailey Lake
Good Lake
Big Vermilion Lake
Little Vermilion Lake
OJIBWAY PROVINCIAL PARK
Rosamond Lake
Rugby Lake
Bluett Lake
Tot Lake
Lateral Lake
Muskie Lake
Kathlyn Lake
Gullwing Lake
Minnitaki Lake
Kabikwabik Lake
605
601
665
72
Rice Lake
Ghost Lake
Mavis Lake
LOLA LAKE PROVINCIAL NATURE RESERVE
Big Sandy Lake
Domtar Corp Dryden Pulp Mill
M
DRYDEN
Thunder Lake
594
EAGLE LAKE 27
Wabigoon Lake
AARON PROVINCIAL PARK
DD Contracting Aggregate Pit
Hartman Lake
Mickle Lake
WABIGOON
BUTLER LAKE PROVINCIAL NATURE RESERVE
17
DINORWIC
Avery Lake
Mile Lake
Trap Lake
Eagle Lake
Doré Lake
Melgund Lake
WABIGOON LAKE 27
603
Pickerel Lake
Dinorwic Lake
Ukik Lake
502
Rock Lake
Peak Lake
Mennin Lake
Bunyan Lake
Boyer Lake
Long Lake
Spruce Lake
Upper Manitou Lake
Sunshine Lake
Uphill Lake
Stormy Lake
622
Josephine Cone Mine Project
Bending Lake
Trout River
Wapageisi Lake
Meggisi Lake
Beak Lake
Lower Manitou Lake
TURTLE RIVER-WHITE OTTER LAKE PROVINCIAL PARK (WATERWAY CLASS)

P:\2016\Projects\TC160516_TML_GGP_Support_IRs\02_Work_Files\GIS\EA\MXD\Cumulative_Effects_5.mxd

## LEGEND

- Operations Area
- Treasury Metals Exploration Program
- Josephine Cone Mine Project
- Domtar Corp Dryden Pulp Mill
- Proposed Wataynikaneyap Power
- Transmission Line
- D&D Contracting Aggregate Pit
- Canadian Pacific Railway
- First Nation Reserves
- Provinical Parks
- Dryden Forest Management Unit
- Planned Harvest Areas (2016 - 2021)
- Highway
- Local Road

MNDM Proposed Road Works (2017-2021)

- Bridge Rehabilitation
- Culvert Replacement
- Resurfacing

NOTES:
- Topographic data extracted from Land Information Ontario, MNRF.
- MNDM proposed road works extracted from Northern Highways Program 2017-2021.
- Planned harvest areas were digized from Dryden Forest Management Units Operational Planning Maps.
- Wataynikaneyap Power routes extracted from 'Phase 1 Draft ES', Golder Associates, 2016.

TREASURY METALS Inc.

amec foster wheeler

# GOLIATH GOLD PROJECT

## Projects Considered in Cumulative Effects Assessment

Datum: NAD83
Projection: UTM Zone 15N

N W E S

0 2.5 5 10 15 20 Kilometres

| | |
|---|---|
| PROJECT N°: TC160516 | **FIGURE: 3.2.4-1** |
| SCALE: 1:300,000 | DATE: April 2018 |

- **Domtar Corporations Dryden Pulp Mill**: Domtar Corporation's Dryden Pulp Mill is located along the Wabigoon Chain of Lakes within Dryden, Ontario and produces cellulose fibers including paper grade and bleached softwood kraft market pulp. It has an annual pulp production capacity of 327,000 tonnes and is the largest employer in Dryden supporting over 350 employees with a regional economic impact of $603.4 million (Domtar, 2017). The pulp mill has been in operation in Dryden since 1913, and was acquired by Domtar in 2007. The pulp mill is located on the west side of Dryden, approximately 15 km from the Project, adjacent to the Wabigoon River.

- **Josephine Cone Mine Project:** The Josephine Cone Mine Project is a proposed iron ore mine owned by Bending Lake Iron Group Limited. The proposed mine would be located 49 km southwest of Ignace, Ontario, 80 km north of Atikokan, Ontario and approximately 50 km southwest of the Project Property Boundary. This project would be an open pit mine with an ore throughput of approximately 56,000 tonnes per day. This project is currently undergoing a Federal Environmental Assessment, which commenced in mid-2012. The EIS Guidelines were issued in June of 2012, and have since been extended to June 2018, although no EIS had been filed at the time of Treasury Metals revised EIS preparation. This project, if constructed, has an anticipated life span greater than 25 years.

- **Aggregate Pits and Quarries**: D&D Contracting holds an aggregate permit (Permit 46764) for an aggregate pit within the Property Boundary of Treasury Metals (MNRF, 2017). This aggregate pit has been included in the cumulative effects assessment.

- **Wataynikaneyap Power**: Wataynikaneyap Power is a transmission company owned by 22 First Nations communities and provides power to remote First Nations communities in Northwestern Ontario by means of diesel generation. The Wataynikaneyap Transmission Project plans to bring reliable power to 16 of these remote communities with 1,800 km of new transmission lines with a potential construction start date in December of 2018 (Wataynikaneyap Power, 2012). A segment of the transmission line will run from the Hydro One 230 kV line southeast of Dinorwic to Pickle Lake. The segment of this project within the cumulative effects Study Area is expected to be completed in 2020.

- **Local infrastructure:** The development of local infrastructure and minor road upgrades are expected in communities within the cumulative effects Study Area (i.e., Dryden and Wabigoon). No largescale projects (>$500,000) are anticipated (Meridian Planning Consultants, 2007).

#### 3.2.4.2 Summary of Section 7 of the Revised EIS (April 2018)

As set out in Table 7.6-1 of the revised EIS (April 2018), the only quantifiable cumulative effects are related to losses of habitat. As such, those cumulative effects would not alter the chemical composition of environmental media or country foods, and would therefore not alter or modify the findings of the HHERA presented herein. That is to say, the cumulative effects scenario results would be numerically the same as the Project Assessment Scenario.

## 3.3 Project Setting

This section provides an overview of the proposed Goliath Gold Project phases, components, and undertakings. Full Project details are provided in Section 3 (Project Description) of the revised EIS (April 2018).

The objective of this section is to provide a platform for describing chemical emissions and releases (i.e., exposure pathways), receptors, and risk management measures incorporated into the design of the Project for each of the temporal boundaries of the HHERA. A more detailed description of operable exposure pathways and receptors relevant to the HHRA and ERA are discussed within those respective subsections.

### 3.3.1 Property Information

The Project is located within with the Kenora Mining Division in northwestern Ontario (Figure 3.3.1-1). The Project site is approximately 4 km northwest of the village of Wabigoon, 20 km east of Dryden and 2 km north of the Trans-Canada Highway 17 and within the Hartman and Zealand townships (Figure 3.3.1-2). Access to the Project property is via existing gravel roads managed through the Local Services Board: Tree Nursery Road and Anderson Road which originates at Highway 17, west of the village of Wabigoon.

The Project is located within the area covered by Treaty 3. Treaty 3 area includes approximately 14,245,000 hectares (ha) in Ontario ranging from the vicinity of Upsala in the east, following the Canada-United States border in the south, and extending past the Ontario-Manitoba border in the west (Figure 3.3.1-3). Treaty 3 includes 28 First Nation communities and a number of villages and towns including Wabigoon, Dryden, Eagle River, Vermillion Bay, Sioux Lookout, Atikokan, Fort Frances, and Kenora. The locations of the closest First Nations communities are shown on Figure 3.3.1-4. The Project is also located within an area identified by the Métis Nation of Ontario as the Treaty 3/Lake of the Woods/Lac Seul/Rainy River/Rainy Lake traditional harvesting territories, also named Region 1.

The physical address of the Project Office is:

Treasury Metals Incorporated – Goliath Gold Project
899 Tree Nursery Road
Wabigoon, Ontario, P0V 2W0, Canada

The location of the Goliath Gold Project (centered on the open pits) is:

UTM Coordinates (NAD 83 15N):

- Easting – 528210.0
- Northing – 5511680.0

Latitude and Longitude:

- Latitude: 49° 46′ 25″ North
- Longitude: 92° 36′ 30″ West

### 3.3.2 Project Description

The mine layout places most mine-related facilities in close proximity to the proposed open pit, and to the extent possible, on private lands owned by Treasury Metals. Figure 3.3.2-1 shows the Operations Area (Study Area No. 1) that will be surrounded by a perimeter ditch, which will prevent direct discharges to the environment. The overall Operations Area will cover approximately 310 ha during the maximum of extent of Operations with the entire footprint on Treasury Metals lands that are either patented or leased (mining rights and surface rights). The site plan shown in Figure 3.3.2-1 shows the preferred alternatives for Project components, as described in Sections 2 and 3 of the revised EIS (April 2018). Figure 3.3.2-2 provides an illustration of the Plant site details, while the layout of the Administration Area is provided in Figure 3.3.2-3. At Closure, Treasury Metals will reclaim the site as described in Section 3.14 of the revised EIS (April 2018).

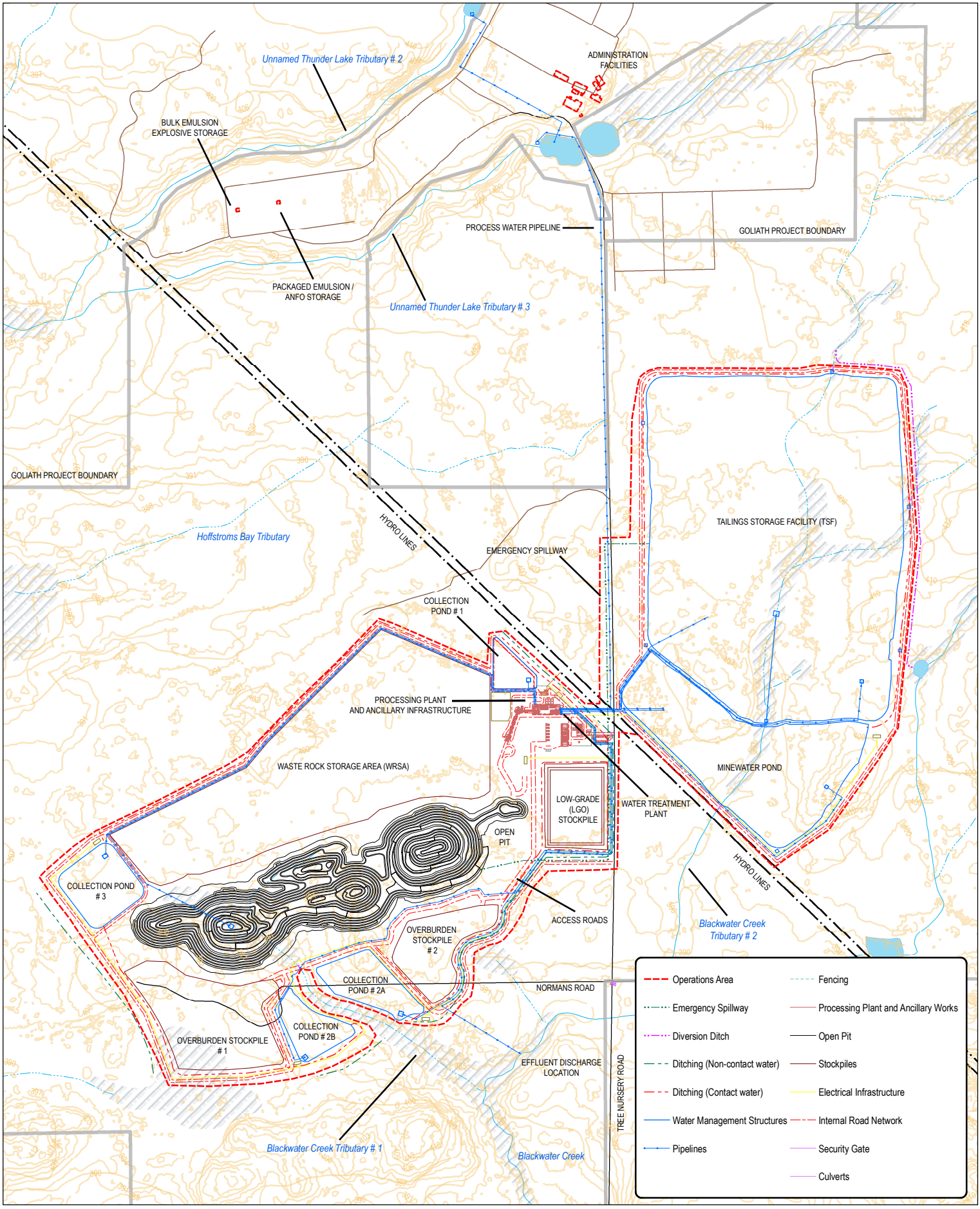
The revised EIS (April 2018) considered two closure options for the TSF and provided predictions of TSF seepage quality, pit-lake water quality, and surface water quality in the receiving environment likely to result from two cover options for closure of the tailings storage facility (TSF), namely; a dry cover and a wet cover option. The two sets of predictions provided in the revised EIS (April 2018) allowed for the comparison of predicted effects on the receiving environment (surface water quality and fish and fish habitat), from both the dry and wet cover options. This comparison identified that predicted surface water quality effects, and thus those on fish and fish habitat would be less with the wet cover option versus the dry cover option. Therefore, the wet cover closure option for the TSF was selected as an appropriate mitigation measure for lessening the potential effects with respect to surface water quality and fish and fish habitat. As a result, the residual adverse effects presented in the revised EIS (April 2018) for surface water quality and fish and fish habitat are based on the application of the wet cover option. Treasury Metals is committed to implement the wet cover closure option for the TSF, and recognize that this will likely be a condition of the environmental assessment process. At this time Treasury Metals does not intend to move forward using the dry cover for the closure of the TSF. As such, the Round 2 responses related to mine waste, groundwater, surface water quality, and fish and fish habitat focus on responding to the requested information relevant to the wet cover option only. The HHERA has been updated to include the surface water quality predictions for the wet cover closure option only. The wet-cover option for closure of the TSF is shown on Figure 3.3.2-4.

The Project is designed to:

- Use well known, conventional and environmentally sound mining techniques and technologies used commonly in northern environments;
- Minimize overall footprint;
- Minimize associated potential effects;
- Manage water effectively and efficiently;
- Mitigate or compensate for effects on biological habitat; and
- Accommodate effective planning for final Closure and site abandonment, rendering the site suitable for other compatible land uses and functions.

The area surrounding the Project is a mixture of abandoned homesteads, small hobby farms and Residential dwellings. Most of the properties associated with the Project were previously privately owned (since around 1900) and have been acquired by Treasury Metals by means of private purchase agreements. There are no places of permanent residence, permanent hunting cabins, child care, health care, or senior citizens' facilities within the Goliath Gold Project Property Boundary within the Property Boundary.

Mineral exploration of the Project site has been carried out since 1990 by various companies and is ongoing. The Ontario Ministry of Natural Resources and Forestry (MNRF) established a tree nursery facility, located north of the mineral deposit, which was sold to Treasury Metals in 2011 and houses the Project office (Figure 3.3.2-1). The Project site is accessed from Highway 17 via Anderson Road and Tree Nursery Road (Figure 3.3.2-1). Highway 17 is part of the Trans-Canada Highway network and is operated by the Ontario Ministry of Transportation. Anderson Road and Tree Nursery Road are unpaved and maintained by the municipality.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

General Arrangement
Operations Phase

Figure 3.3.2-1 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 03/27/2017 |
| GIS: | MP | 03/27/2017 |
| CHECK: | MW | 03/27/2017 |
| REVIEW: | DB | 03/27/2017 |

Hydro Line
Natural Gas Pipeline
Railway
Provincial Parks
Expressway / Highway
Local Road
Resource / Recreation Road
Contours (3 meters)
Waterbody
Intermittent Streams
Permanent Streams
Wetland

SCALE 1:16,000

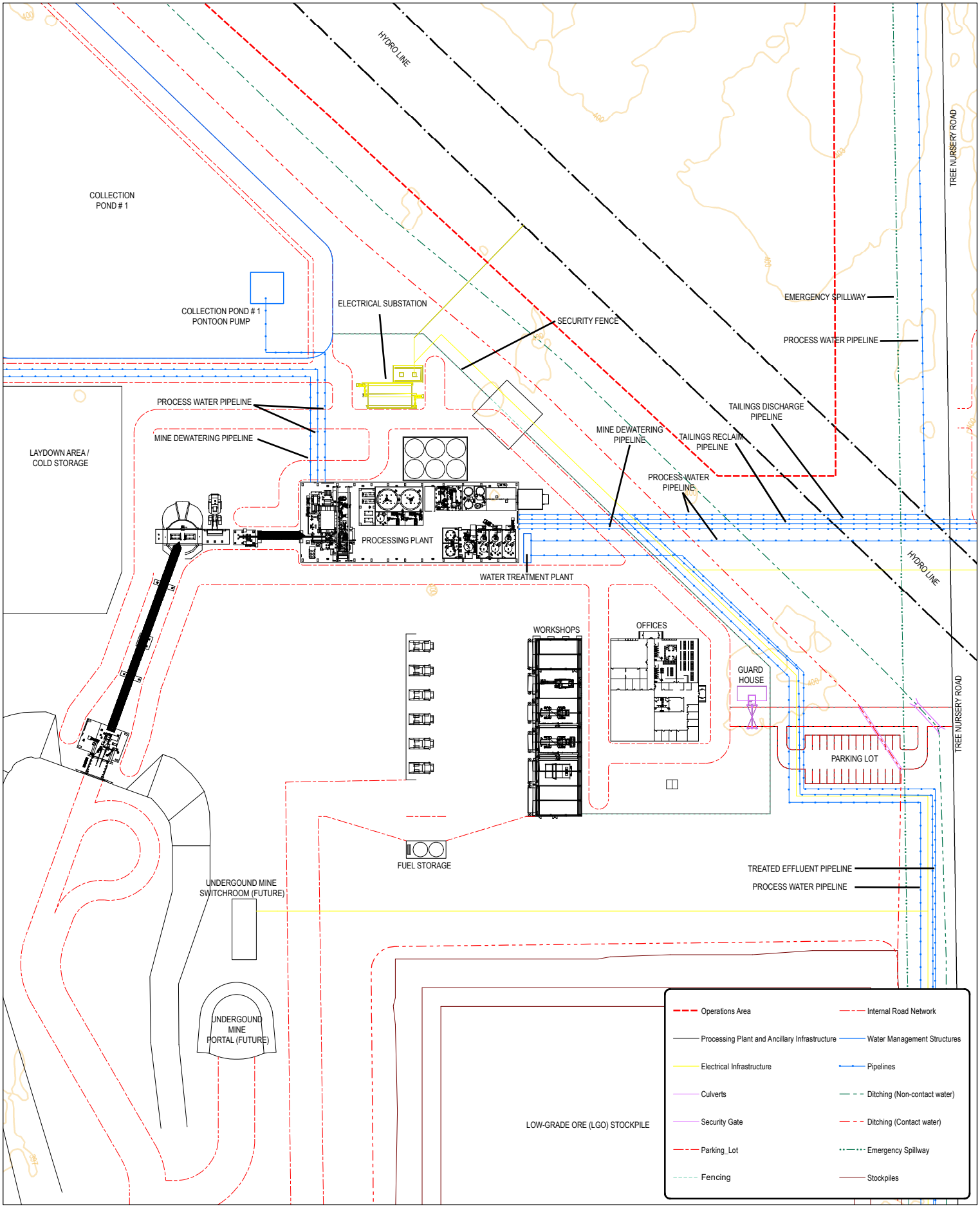
NAD 83, UTM Zone 15

N

0 750
Meters

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
Harvest will be contained within operations area.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

General Arrangement
Operations Phase (Plant Site Details)

Figure 3..3.2-2 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 03/27/2017 |
| GIS: | MP | 03/27/2017 |
| CHECK: | MW | 03/27/2017 |
| REVIEW: | MW | 03/27/2017 |

Hydro Line
Natural Gas Pipeline
Railway
Provincial Parks
Expressway / Highway
Local Road
Resource / Recreation Road
Contours (3 meters)
Waterbody
Intermittent Streams
Permanent Streams
Wetland

SCALE 1:2,000

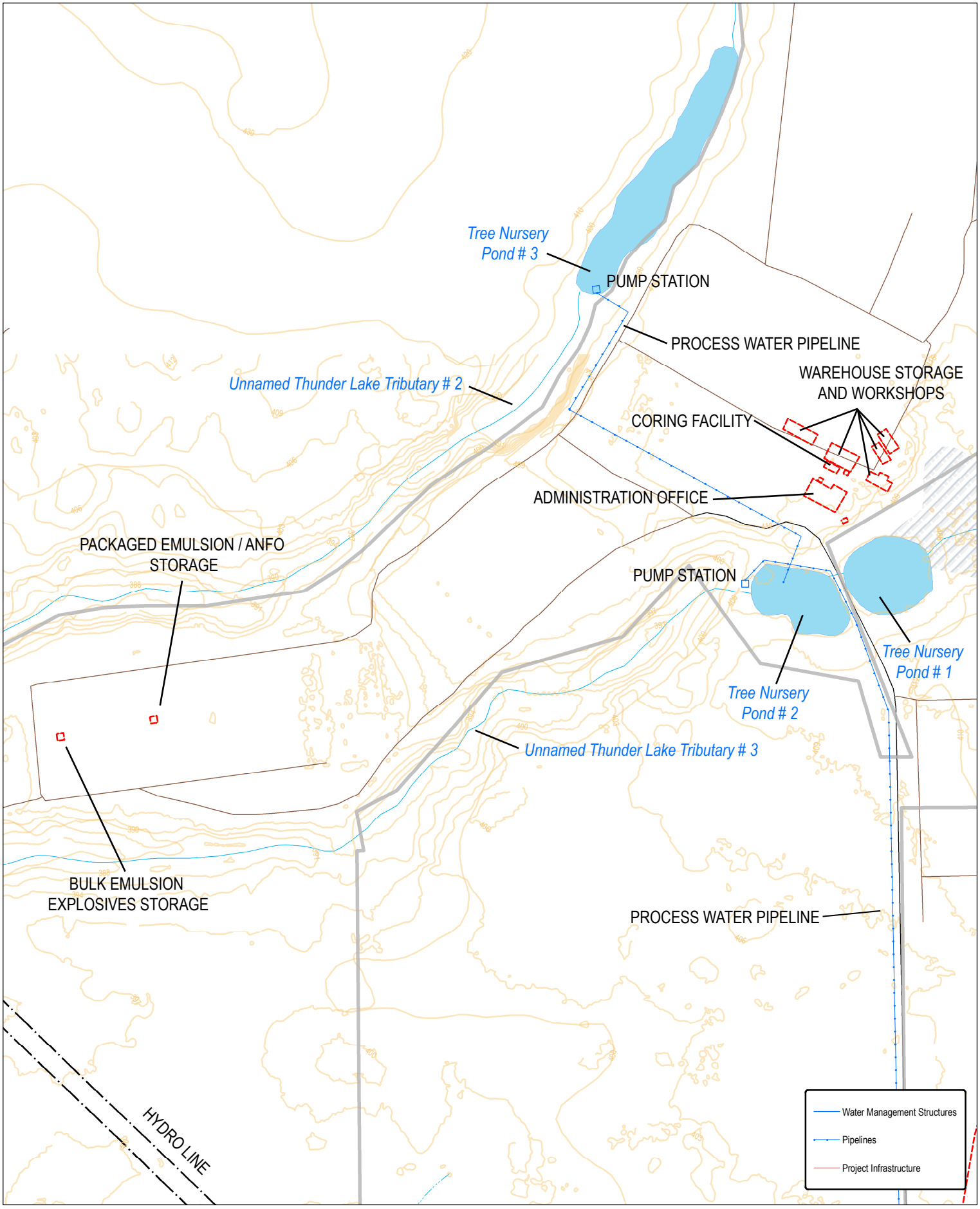
NAD 83, UTM Zone 15

N

0 100
Meters

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
Harvest will be contained within operations area.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

General Arrangement
Operations Phase (Administration Area)

Figure 3.3.2-3 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 03/27/2017 |
| GIS: | MP | 03/27/2017 |
| CHECK: | MW | 03/27/2017 |
| REVIEW: | MW | 03/27/2017 |

Hydro Line
Natural Gas Pipeline
Railway
Provincial Parks
Expressway / Highway
Local Road
Resource / Recreation Road
Contours (3 meters)
Waterbody
Intermittent Streams
Permanent Streams
Wetland

SCALE 1:7,000

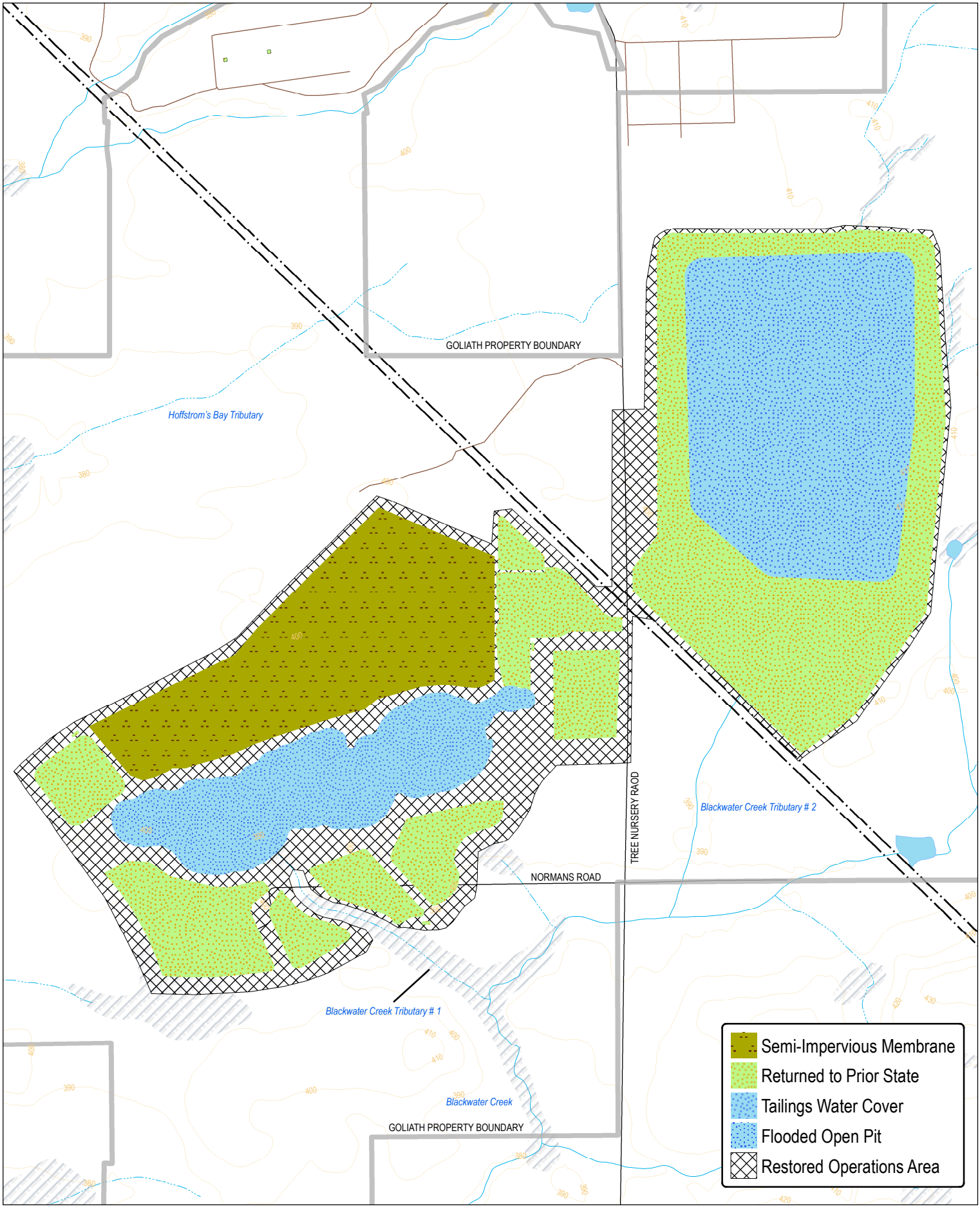
NAD 83, UTM Zone 15

N

0 300
Meters

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
Harvest will be contained within operations area.




GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Project Configuration
Post-Closure (Wet TSF Cover)

Figure 3.3.2-4 | REV.01

TREASURY METALS Inc.

| | | |
|---|---|---|
| DESIGN: | MP | 03/27/2017 |
| GIS: | MP | 03/27/2017 |
| CHECK: | MW | 03/27/2017 |
| REVIEW: | MW | 03/27/2017 |

Hydro Line
Natural Gas Pipeline
Railway
Expressway / Highway
Local Road
Resource / Recreation Road
Provincial Parks
Waterbody
Intermittent Streams
Permanent Streams
Wetland

SCALE 1:15,000

NAD 83, UTM Zone 15

N

0 750
Meters

Base Data:
Treasury Metals Inc., LIO Database, KBM Resources Group

Notes:
Harvest will be contained within operations area.

### 3.3.3 Description of Project Phases

#### 3.3.3.1 Site Preparation and Construction

Before mining Operations can commence, Treasury Metals will need to prepare the site and construct key elements of the Project infrastructure. The first activities to occur will be associated with the preparation of the site. These activities will include:

- Establish and implement environmental protection and monitoring plans;
- Initiate overburden stripping;
- Establish water management and flood protection infrastructure;
- Construction of dams and water realignment channels/ditches; and
- Construction of support buildings and infrastructure.
- Dewater ponds and wetlands within footprint of proposed infrastructure;
- Establish water management and flood protection infrastructure for mine components;
- Construct surface drainage diversion structures and water realignment channels/ditches;
- Construction of any access roads for planned infrastructure;
- Initiate overburden stripping over the ore body, the TSF location, and mill site; and
- Construction of support buildings and infrastructure required for construction.

Treasury Metals will initiate construction once site preparation activities are completed, with some activities overlapping in time (e.g., construction in one area of the site while site preparation in another area continues). Construction activities will be coordinated according to manpower and equipment availability, scheduling constraints and site conditions. Some activities, particularly those involving work in wet or poorly developed accessible terrains are best carried out under frozen ground conditions. Some of the key construction activities include:

- Procurement of materials and equipment;
- Movement of construction materials to identified laydown areas and site;
- Construction of additional site access roads and any possible required realignment of existing roads;
- Development of aggregate source(s) anticipated to be principally for possible concrete manufacturing, foundation work and TSF dam filter zones;
- Construction of the TSF;

- Establishment of site drainage works, including pipelines from freshwater/recycled water sources;
- Development and installation of construction facilities;
- Construction of associated building and facilities;
- Preparation of on-site mineral waste handling facilities; and
- Construction and energizing of a 115 kV transmission line including on-site electrical substation.

Overall, this phase of the Project could last up to two years in length.

During Site Preparation and Construction workers may be exposed to higher concentrations of fugitive dust emissions from overburden (i.e., baseline soils). There will be no emissions from waste rock, tailings, or the ore bodies during Site Preparation and Construction. Administrative controls and Project features such as a perimeter ditch and berm will minimize access to the Operations Area during the active Project phases, to large mammals and human receptors other than Project Workers. Under good occupational health and safety practices, a Health and Safety Plan including additional personal protective equipment such as a respirator and dust mask will be implemented to minimize inhalation of total suspended particulate matter and particulate matter in the air during this Project phase.

#### 3.3.3.2 Operations Phase

Ore will begin to be produced immediately by processing incoming material from the open pit. The process plant will operate at approximately 2,700 tonnes per day (tpd) to process a total of approximately 5,500,000 tonnes of open pit ore and 3,500,000 tonnes of underground ore over the 11 to 12 year operational phase of the mine.

As the Operations phase continues, the open pit will become progressively deeper. Approximately 40% of the waste rock will be used to backfill the mined-out areas of the pit. The TSF capacity will be increased as required through dam raises.

Solid and liquid wastes/effluent will be managed appropriately as per regulatory compliance. Environment related activities that will be carried out during the Operations phase are anticipated to include:

- Ongoing management of chemicals and wastes;
- Water management/treatment;
- Air quality and noise management;
- Biological monitoring;
- Environmental monitoring and reporting;
- Follow up environmental studies; and
- Progressive site reclamation, where practical.

During Operations human receptors may be exposed to fugitive dust emissions from the Project. Human receptors may be exposed via direct dermal contact to baseline soils and waste rock, however not tailings, as tailings will be maintained under constant water cover in the TSF during the Operations phase of the Project. Fugitive dust from the tailings beach has been considered as part of the air quality modelling in addition to emissions from the waste rock. Under good occupational health and safety practices, a Health and Safety Plan including additional personal protective equipment such as a respirator/ dust mask, work gloves, and long sleeves and pants will be implemented to minimize human exposure during the Operations phase of the Project.

Access to the entire Operations Area will be limited to humans other then Project Workers, and large mammals. The TSF may be fenced if required further restricting the ability of mammals to use the TSF as a source of drinking water, and reducing this pathway of exposure to small mammals and birds alone. The milling process is being designed with a cyanide management system to ensure that wildlife, including waterfowl, are protected from chemical exposure to the TSF. Treasury Metals will employ a two part strategy for managing cyanide at Project, namely: reduce and re-use; and treatment or destruction. The TSF will be lined to prevent chemical seepage to the groundwater system and subsequently downgradient surface water bodies.

Treasury Metals has committed that final effluent water quality from the treatment plant will meet PWQO values (CCME values where no PWQO value exists), or background when the background is greater than the PWQO. In the case of mercury, Treasury Metals has committed to discharge at or below a concentration of 0.00002 mg/L ($2.0\times10^{-5}$ mg/L) (based on an average upstream background concentration in Blackwater Creek). The commitment by Treasury Metals related to mercury is 10 times more stringent than the PWQO ($2\times10^{-4}$ mg/L). Furthermore, modeling of effluent quality has indicated that the mercury concentration will be 0.000002 mg/L ($2 \times 10^{-6}$ mg/L) which is one order of magnitude lower than the commitment and two orders of magnitude lower than the PWQO surface water quality guideline.

#### 3.3.3.3 Closure Phase

Closure of the Project will be governed by the Ontario Mining Act (the Act) and its associated regulations and codes. The Act requires that a detailed Closure plan be filed for any mining project before the project is initiated. Financial assurance is required before any substantive development takes place to ensure that funds are in place to carry out the Closure plan. The objective of this is to reclaim the Project site area to a naturalized and productive biological state when mining ceases. The terms naturalized and productive are interpreted to mean a reclaimed site without infrastructure, which, although different from the existing environment, is capable of supporting plant, wildlife and fish communities, and other land uses. A conceptual Closure plan is described in Section 3.14 and in Appendix KK of the revised EIS (April 2018).

Treasury Metals expects the active Closure period of the Project will take approximately three years after Operations cease. The placement of a wet cover option for closure of the TSF is anticipated to take approximately 1 year which is less than the predicted time of ARD onset (see TMI_897-MW(2)-01). The wet cover will be implemented in 3 main phases, a detailed discussion and justification of timelines for each are provided below:

- **Withdrawal and treatment of supernatant water:** Following the end of mining operations, the supernatant water present in the tailings storage facility (TSF) at closure will be withdrawn, treated, and used to help fill the open pit. The estimated amount of supernatant water present in

the TSF at closure is predicted to be 970,000 $m^3$. Treasury Metals is confident that the volume of water present in the TSF at closure can be withdrawn and treated to a level suitable for discharge to the open pit as it is filling within a period of 4-6 months. If required, Treasury Metals will bring in commercially available packaged treatment units to augment the existing water treatment capacity.

- **Placement of granular material:** For the wet cover option, granular material will be placed around the perimeter of the tailings during the first winter, to physically isolate the tailings at the edge of the TSF and reduce potential disturbance and entrainment of the tailings due to wave action. Perimeter granular covers have been successfully placed at other mine sites in Ontario. Experience on other mine sites, shows that placement of a full granular cover over saturated tailings may not be practicable, and should not be necessary to ensure the protection of the environment. Surfaces along the perimeter TSF should be sufficiently trafficable for the placement of the granular material using a low ground pressure (LGP) wide track bulldozer once the water is withdrawn. The trafficability will be further enhanced by placing the granular material during the winter months when the upper 0.3–0.6 m thickness is frozen. The volume of granular material required for closure of the TSF is 55,671 $m^3$ (30% coverage of the total TSF area of 618,569 $m^2$; thickness of 0.3 m [TMI_040-MW(1)-02]). It would take less than 2 months to deliver this material using standard highway haul trucks (capacity of 17 $m^3$; 100 trucks per day; 5 days per week).

- **Placement of water cover:** In the wet cover scenario, the tailings in the TSF will be covered with a layer of non-process water of sufficient depth to ensure a water cover is maintained during drought conditions. The volume of non-process water required to close the TSF is 300,000 $m^3$ (Attachment JJ-1 to Appendix JJ of the revised EIS [April 2018]). At closure, there will be 320,000 $m^3$ of water available in the minewater pond and collection ponds (Section 3.8.11 of the revised EIS [April 2018]) to be used as water cover for closure of the TSF. Treasury Metals would augment their available pumping capacity, as required, to transfer the required water to the TSF within 4 months.

During the early stages of mining, waste rock from the open pit will be placed in the waste rock storage area (WRSA). Once practical, waste rock will be placed in the mined out areas of the open pit. At Closure, the WRSA will be capped with a low permeability cover and then covered with an overburden layer and vegetated with ground cover species as well as tree species that are consistent with planting prescriptions in the Dryden Forest Management Plan (FMP). The waste rock placed in the mined-out areas of the open pit will be isolated beneath the pit-lake.

During the Closure, human receptors may be exposed to waste rock and tailings for a short period of time via direct dermal contact during the construction of the final Closure encapsulation (i.e the water cover will be maintained in perpetuity during post-closure). Inhalation of fugitive dust from these sources and baseline soils is also an operable pathway. At Closure the pit-lake will be allowed to flood. The pit-lake will be monitored as it is filling to determine whether batch treatment will be required to meet the PWQO, or background if background levels exceed the PWQO, prior to the discharge from the pit-lake to a tributary of Blackwater Creek.

#### 3.3.3.4 Post-Closure Phase

Following the Closure Phase there will be a period of time (i.e., the Post-Closure Phase) required until the final pit is fully flooded. Modelling has indicated that should take between 6 and 8 years. Until such time that the final pit is fully flooded and the Agency or other responsible authorities deem appropriate to ensure Closure of the mine is performing as predicted, Treasury Metals will hold the site in care and maintenance. Environmental monitoring and potential effluent quality management will occur during this passive period of reclamation, which is anticipated to take approximately 17 years. The pit-lake will be monitored as it is filling to determine whether batch treatment will be required to meet the PWQO, or background if background levels exceed the PWQO, prior to the discharge from the pit-lake to a tributary of Blackwater Creek. Treasury Metals also expect that monitoring of the pit-lake will continue for a period of time after flooding to determine whether additional batch treatments will be required to ensure the water released from the open will meet effluent limits.

During the Post-Closure Phase, there will be no fugitive dust emissions except those from native soils. However, the native soils in the Post-Closure phase will consider be the change in soil chemistry from dust deposition during all previous Project phases. The change in baseline soil chemistry will be considered for surface soils (i.e., < 1.5 m below ground surface [MECP, 2011, formally MOECC]). Changes in baseline soil chemistry may result in chemical uptake into plants and soil organisms and subsequently bioaccumulate within the food chain. An evaluation of ingestion of country foods (plants, wild game, fish) is considered for the Post-Closure Phase of the Project as this is when human and ecological receptors may once again have full access to the Project site. There will be no exposure to waste rock or tailings during Post-Closure as these wastes will be encapsulated via their engineering designs.

## 3.4 Hydrogeological Setting

The Project site is located in the west-central portion of a hydrological basin containing low to moderate relief topographic features, including low lying marsh type lands and exposed bedrock ridges. This basin has been defined by inferred groundwater divides associated with topographic watersheds, and is bordered by:

- Upland areas to the east (i.e., in the vicinity of Hartman Lake), and to the north, part of which is occupied by a significant wetland area;
- The Thunder Lake Tributary drainage basin to the west; and
- Wabigoon Lake to the south.

This basin contains the Thunder Lake drainage area to the west, Blackwater Creek drainage area through the central region, and the Hughes and Nugget Creek drainage areas in the east. Blackwater Creek and Hughes Creek both drain southerly into Wabigoon Lake. The extent of this area is shown in Figure 5.6.1-1 of the revised EIS (April 2018).

The regional hydrogeology of this Study Area reportedly consists of relatively shallow (less than 10 m), localized overburden aquifers, as well as fractured metamorphic bedrock aquifer conditions.

The baseline Study Area for hydrogeology was described in Section 5.6 of the revised EUS (April 2018) and the evaluation of effects of the Project on hydrogeology in Section 6.10 (Groundwater Quality) and 6.11 (Groundwater Quantity), of the revised EIS (April 2018).

### 3.4.1 Overburden Aquifer Conditions

As described in Section 5.6 of the revised EIS (April 2018), the hydrogeological investigations conducted to date for the area surrounding the Project were based on the following infrastructure:

- Nine monitoring wells/groundwater quality wells were constructed in the overburden and bedrock contact in May 2013;
- Twenty (20) geotechnical boreholes were drilled in March/April 2014 with four of these completed with shallow stand pipes for groundwater monitoring;
- Groundwater elevations were manually recorded in the water quality wells on near monthly intervals between June 2013 and January 2014, and in the standpipes on one occasion in May 2014; and
- Hydraulic conductivity testing of the overburden soils was performed on six of the water quality wells in February 2014.

Borehole logs and well construction details for these monitoring wells are provided in Appendix M to the revised EIS (April 2018).

### 3.4.2 Overburden Geology

Overburden throughout the area surrounding the Goliath Gold Project consists of fine grained lacustrine deposits and coarser grained glaciofluvial outwash deposits, distributed over shallow, irregular bedrock. This overburden has an average thickness of around 7.5 m, but does vary from non-existent where bedrock outcrops at surface in various locations in the vicinity of the project site, as well as to the north and south, to depths of around 15 m in limited areas, with a maximum depth of 40 m below grade. The distribution of this surficial geology is shown in Figure 5.6.2.1-1 of the revised EIS (April 2018). For additional details relating to the surficial geology, including cross section through the hydrogeology Study Area, please refer to Section 5.5 of the revised EIS (April 2018).

For the most part, the lacustrine deposits of clay, silt and sand-clay or silt-sand, have a low hydraulic conductivity ($10^{-8}$ m/s), and are expected to act as an aquitard. These deposits are generally not expected to provide any significant base flow to the local creeks or streams, or to be suitable for development as a groundwater resource through use of private wells.

Through portions of this area (exploratory drilling suggest 40% of borehole locations), there is a basal sand of variable but generally limited thickness (3 to 4 m maximum), underlying the lacustrine clay-rich unit. Hydraulic conductivities of the basal sand unit are in the order of $10^{-6}$ m/s, so there is the potential for development of this water bearing zone as a localized groundwater resource. These deposits generally infill the low areas of the variable bedrock surface.

Across the northeastern portion of the Study Area, the overburden geology is dominated by sand and sand and gravel glacial deposits, associated with the Hartman Moraine, a northwest to southeast trending feature running parallel to the shoreline of Thunder Lake. These outwash deposits are expected to provide base flow to various tributaries draining into Thunder Lake, and are suitable for development as a groundwater resource. A second area of deeper sand and gravel deposits is present in the southeast portion of the baseline hydrogeology Study Area in the form of a Kame deposit.

### 3.4.2.1 Aquifer Characteristics

In February 2014, rising head slug tests were conducted by Treasury Metals on six of the groundwater quality wells installed in the overburden and overburden/ bedrock interface. Hydraulic conductivities ranged from $4.6\times10^{-7}$ m/s to $1.3\times10^{-6}$ m/s with a geometric mean of $9.2\times10^{-7}$ m/s and arithmetic mean of $9.8\times10^{-7}$ m/s. In most of the wells in which rising head slug tests were conducted, the screened portion of the well extended through a mixture of clay and sand immediately above the contact with the bedrock surface (location of auger refusal) or the screen straddled the basal sand and bedrock contact surface. Details relating to the well construction, stratigraphy and conductivity values are summarized in Table 3.4.2.2-1.

**Table 3.4.2.2-1: Overburden Hydraulic Conductivity Testing Summary**

| Well ID | Screened Depth (m below grade) | Screened Stratigraphy | Depth to Water (m below grade) | Hydraulic Conductivity (m/s) |
|---|---|---|---|---|
| 1A | 3.1 – 4.6 | Basal sand and bedrock | 1.06 | $1.3 \times 10^{-6}$ |
| 3AS | 3.1 – 6.1 | Sand | 1.66 | $7.1 \times 10^{-7}$ |
| 3AD | 10.9 – 12.9 | Clay and basal sand | 1.20 | $4.6 \times 10^{-7}$ |
| 5A | 6.6 – 9.6 | Clay | 2.0 | $1.0 \times 10^{-6}$ |
| 6D | 3.0 – 6.0 | Clay and basal sand | 1.91 | $1.1 \times 10^{-6}$ |
| 7A | 4.0 – 7.0 | Clay and silt and sand | 1.43 | $1.2 \times 10^{-6}$ |

### 3.4.2.2 Groundwater Flow

Full details of hydrogeological studies are provided in Appendix M of the revised EIS (April 2018), a summary is provided herein. During the limited period of groundwater elevation monitoring (June 2013 to January 2014), the depth to groundwater ranged from 0.14 to 1.9 m below grade. Seasonal fluctuations of the water table were noted as a slight rise in the fall and then a decrease in the winter, with the range of fluctuation in the individual wells being 0.5 to 1.7 m. The groundwater elevations recorded are summarized in Table 5.6.2.3-1 of the revised EIS (April 2018).

Based on limited monitoring of various wells (water quality monitoring and geotechnical boreholes) installed throughout baseline hydrogeology the area, groundwater flow in the basal sand feature appears to be southwesterly, from the elevated wetland to the north, then splitting off in the general vicinity of the Project site to the south towards Wabigoon Lake and to the west towards Thunder Lake, suggesting that this flow is largely controlled by local topography. The groundwater contours and apparent flow direction is shown in Figure 5.6.3 of Appendix M to the revised EIS (April 2018).

Based on this flow system, the recharge area for the basal sand aquifer is expected to be in higher elevation, outwash areas to the north, and the Kame deposit to the southeast, or along the edges of the localized bedrock outcrops.

Monitoring of stream flows in Blackwater and Little Creek during the regional dry/low precipitation year of 2011 found that these creeks had no flow or not enough flow for accurate measurement beyond the spring freshet. This was considered to be an indication that there was no significant groundwater discharge to these creeks, as otherwise some baseflow could be expected during very dry conditions. In 2012 and 2013, precipitation was again below the 30-year average, but near continuous flow was noted in both of these creeks, which was then assumed to account for part of the recharge to the overburden aquifer system.

### 3.4.3 Bedrock Aquifer Conditions

As described in Appendix M to the revised EIS (April 2018), the hydrogeological investigations conducted to date for the bedrock system were based on the following infrastructure:

- Records for available geological exploration boreholes were initially reviewed and six of these were incorporated in to the hydrogeological assessment program.
- Three additional boreholes were drilled into the bedrock in February 2013 to assess hydrogeological conditions.
- All nine of these hydrogeological purposes bedrock boreholes are located in the immediate vicinity of the proposed mine development site.
- In February 2014, multi-level hydraulic conductivity testing was conducted on three existing geological exploration boreholes and in the three bedrock boreholes drilled for hydrogeological assessment.

The three drilled boreholes were equipped with vibrating wire piezometers to allow for continuous water level fluctuation monitoring through 2013.

#### 3.4.3.1 Bedrock Geology

Bedrock throughout hydrogeological baseline Study Area consists of metasedimentary rock, with mafic to intermediate metavolcanic rock to the north and south. Groundwater availability and flow through these units is dependent on fracture frequency and fracture interconnectivity which allows for groundwater storage movement from the recharge areas. The areas of higher conductivity in the metasedimentary unit are most commonly in the upper portion, which has been subjected to historical weathering, and in a central unit of more highly altered rock (e.g., schists), which shows an east–west structural trend. Please refer to Section 5.4 of the revised EIS (April 2018) for additional details relating to the bedrock geology.

For the most part, the rocks outside of the surficial portion and the central unit are fairly competent with fracture frequency decreasing with depth, as indicated by Rock Quality Designation (RQD) recovery values of around 90%, and therefore are unlikely to produce any significant amount of groundwater. The central

unit, although more conductive as a result of the higher fracturing rate, still shows a limited potential for groundwater flow (RQD value of 83%), typical of Canadian Shield bedrock environments.

#### 3.4.3.2 Aquifer Characteristics

Hydraulic conductivity testing was conducted in three existing exploration boreholes and in three boreholes drilled in part for hydrogeological purposes, to estimate the hydraulic conductivity in the bedrock along the east-west structural trend. This conductivity testing involved the use of packers to isolate a limited portion of the borehole, either starting at the base of existing exploration boreholes and moving upward to increase the length of exposed fractured zone, or moving downward as drilling progressed in new boreholes. The groundwater within the isolated zone was pumped out and a rising head slug test performed.

A total of six boreholes were tested in this way, with each borehole being tested over between five to nine intervals. The estimated bedrock hydraulic conductivities that resulted from the packer testing in the existing exploration boreholes ranged from $2\times10^{-6}$ m/s near the surface due to weathering and fracturing of the bedrock, down to $1\times10^{-8}$ m/s, decreasing with depth. The exception was within the central mineralized zone where hydraulic conductivity values were in the order of $1\times10^{-7}$ m/s. This coincided with anecdotal information from the construction of the portal which indicated that groundwater flow was associated with the mineralized zones.

A summary of the packer test results averaged over the length of the individual boreholes is provided in Table 3.4.2.2-1.

**Table 3.4.2.2-1: Hydraulic Conductivity Summary of Bedrock Units**

| Well ID | Tested Zone (m below grade) | Geological Unit Penetration Sequence | Average Depth to Water (m below grade) | Average Hydraulic Conductivity (m/s) |
|---|---|---|---|---|
| TL13321 | 18 – 254 | Hanging-wall – Central – Foot-wall | 5.0 | $1.3 \times 10^{-7}$ |
| TL13317 | 17 – 210 | Hanging-wall – Central | 3.4 | $6.5 \times 10^{-7}$ |
| TL13315 | 15 – 225 | Foot-wall – Central | 1.7 | $3.9 \times 10^{-7}$ |
| TL0855 | 27 – 237 | Hanging-wall – Central | 3.0 | $2.2 \times 10^{-8}$ |
| TL10111 | 27 – 168 | Hanging-wall – Central | 3.2 | $4.8 \times 10^{-7}$ |
| TL11195 | 45 – 224 | Hanging-wall – Central (intercepts NW Fault at 130 m downhole) | 0.6 | $1.8 \times 10^{-8}$ |

The locations of the boreholes in which packer testing was conducted is shown in Figure 5.6.2.1-1 of the revised EIS (April 2018). Additional details relating to the individual rising head tests performed are provided in Appendix D to Appendix M of the revised EIS (April 2018).

### 3.4.3.3 Groundwater Flow

Between March and July 2013, groundwater levels were measured on seven occasions in the nine bedrock boreholes identified for hydrogeological purposes. During this period, groundwater was found to show flowing well conditions in two boreholes, with water heights of 0.8 m to over 1.4 m above grade (the height of the casing). Groundwater levels in the remaining seven wells ranged from 0.3 to 4.0 m below grade, and generally showed an increase in the spring (April to June) and then either stabilized or decreased, with a total range of fluctuation of 0.4 to 2.9 m. A summary of groundwater monitoring results is provided in Table 5.6.2.3-1 of the revised EIS (April 2018). Review of the vibrating wire piezometer levels reportedly indicated a groundwater elevation rise following the spring freshet, followed by a gradual decline through to the winter of 2013/2014. Total water level fluctuations in these wells was reported to be between 1.0 and 1.5 m.

Based on limited monitoring of these bedrock boreholes situated in the immediate vicinity of the proposed mine site, the groundwater flow appears to be suggest an outward radial flow to the east and southwest. These elevations also suggest an upward vertical flow gradient within the bedrock, and from the bedrock into the overburden units, which may then result in some groundwater discharge to the adjacent Blackwater Creek.

## 3.4.4 Rationale for Exclusion of Groundwater as a Source Media in the HHERA

Chemical concentrations of parameters in groundwater are not relied upon in the HHERA given the current Project design, consideration of the dominant exposure pathways, current land use of the area surrounding the Goliath Gold Project, and Treasury Metals'' commitments to ongoing monitoring and engagement. As part of the design of the Project, the TSF will be lined so that it effectively reduces chemical seepage to groundwater, to a negligible amount. During the active life of the Goliath Gold Project, the drawdown associated with dewatering of the open pit will dictate that groundwater and residual amount of seepage associated with the groundwater system will be entirely directed towards the

open pit, therefore there will be limited impacted groundwater, including groundwater impacted with seepage leaving the site. The predicted volume of seepage during the active phases of the Project are sufficiently low that they are not anticipated to have a measurable effect on existing groundwater quality. Following Closure of the Project, once dewatering of the open pit ceases, and the pit-lake forms, the groundwater system will recover, and groundwater from the Operations Area will eventually begin to once again flow off-site. However, the predicted volumes of seepage from the Project during the Post-Closure phase are sufficiently low that they are not anticipated to have a measurable effect on groundwater quality travelling off-site. As part of the Project, Treasury Metals will establish a groundwater monitoring network designed to detect any off-site changes in groundwater quality early enough that mitigation measures or an adaptive management strategy may be applied, before these changes (if any) reach domestic water wells. Furthermore, Treasury Metals, as part of ongoing engagement activities is working to implement a monitoring program for groundwater yield and quality of the domestic water wells in the regional area surrounding the Goliath Gold Project as to provide a framework for detecting changes in these endpoints.

Given the above noted considerations, exposure to surface water is anticipated to contribute more meaningfully than exposure to groundwater in terms of a potential effect on potential human health or ecological risks. Surface water from Wabigoon Lake is also an essential source of potable water for the Village of Wabigoon. As such surface water is considered a more dominant exposure media and therefore more likely to result in conservative estimates of potential risk. Consideration of groundwater as an exposure media may be considered as part of a Follow-Up Program for human health and ecological risk assessment,

## 3.5 Selection of Contaminants of Concern

Chemical concentrations in environmental media including air, soil, and surface water were measured and/or modelled for use in the HHERA. Chemical concentrations in Project-specific media including waste rock, TSF supernatant water, and pit-lake water were also considered for the HHERA for Study Area No. 1. The relatively large number of data points (provided in Appendix A) allowed for the calculation of the 95$^{th}$ upper confidence limit of the mean (UCLM) concentration, and its subsequent use as the exposure point concentration (EPC) for all Assessment Scenarios and receptor locations for all media types except for the TSF supernatant water (for which there is only one prediction available).

Activities associated with each Project phase are expected to emit Criteria Air Contaminants (CACs) including carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), total suspended particulate, particulate matter - $PM_{10}$ ($PM_{10}$), particulate matter (fine fraction) - $PM_{2.5}$ ($PM_{2.5}$) as well as inorganic COCs including metals. Where environmental conditions are suitable, the biotransformation of mercury to methylmercury may also occur.

For human health exposure to CACs is only operable via the inhalation of air pathway and therefore residual adverse effects were characterized based on the inhalation pathway alone. Whereas, for inorganic metals (and methylmercury) human and ecological exposure may be via the inhalation and also via direct contact with soil, water, Project-specific media and ingestion of country foods, therefore residual adverse effects are characterized based on the sum of all operable exposure pathways.

### 3.5.1 Criteria Air Contaminants

Activities associated with each Project phase are expected to emit Criteria Air Contaminants (CACs) including CO, $NO_x$, $SO_2$, TSP, $PM_{10}$, and $PM_{2.5}$. Section 6.6 of the revised EIS (April 2018) provided an evaluation of the effects of the Project on air quality and considered the potential effects of the Project on air quality during the Site Preparation and Construction, Operations, and Closure phases of the Project. There are no air emission sources during the Post-Closure phase of the Project as such no predicted values were modelled. The air quality assessment presented in Section 6.6 of the revised EIS (April 2018) and vised as part of the Round 2 information response process, focussed, appropriately on the maximum predicted concentrations at the Property Boundary, as well as at 43 identified sensitive receptors. As part of the Round 2 Information Request Process, a number of Human Health and Atmospheric Environment Information Requests were received related to the effects of CACs on human health in areas within inside of the Property Boundary including the Operations Area, and areas outside of the Operations Area where traditional land and resource use may occur. In addition, Health Canada in their 2016 guidance document for assessing air quality and health for an EA, requires that "*the predicted or estimated COPC concentrations for the maximally exposed population, for the most sensitive receptors and at the point of maximum impingement*" be provided. For the Goliath Gold Project, the Maximum Point of Impingement (MPOI) is consistent with the Ontario Regulation 419/05 definition. A "point of impingement" is defined in section 2 of the Ontario Regulation 419/05 and includes: (a) any point off-site; and (b) any point on-site that is (i) on a child care facility; or (ii) on a structure that serves primarily as a health care facility, a senior citizens' residence or long-term care facility, or an educational facility; and (c) any point on the same structure as the source of a contaminant that does not belong to the facility. Given that there are no child care, health care, or senior citizens' facilities within the Goliath Gold Project Property Boundary, the maximum point of impingement was appropriately considered at the Property Boundary. A full set of updated contour maps for each project phase, similar to those presented in Appendix J-2 have been included as part of the Round 2 responses related to the atmospheric environment (TMI_877_AE(2)-01_Attachment 1 (i.e. 46 new figures)).

The appropriate criteria for conducting a qualitative screening of CACs at the Property Boundary and at sensitive receptors are the Canadian Ambient Air Quality Standards (CAAQS) or the Ontario Ambient Air Quality Criteria (AAQC) for all available averaging period. The Property Boundary predictions represented the appropriate values for determining compliance with Ontario Regulation 419/05, while the CCME (2006) identifies that the sensitive receptor which meet the CCME definition of community-based receptors, would be the most appropriate locations for determining compliance with ambient air quality criteria. The closest 44 "community-oriented" receptor locations were identified and shown on Figure 3.1.1-1. As shown on Figure 3.1.1-1, there are no community-orientated receptors located within the Operations Area or Property Boundary. These community-oriented receptors were called "sensitive receptors" in the revised EIS (April 2018).

The results of the air quality modelling completed in support of the Round 2 information request process for the atmospheric environment indicated that the maximum air quality predictions made at the Property Boundary and the maximum air quality predictions at the sensitive receptor locations, satisfied their respective ambient air quality criteria. The results for Site Preparation and construction, Operations, and Closure are provided in Tables 3.5.1-1, 3.5.1-2, and 3.5.3-3, respectively. As such, no potential risk is identified to human receptors located at the maximum point of impingement (i.e. the Property Boundary)

or at any of the sensitive receptor locations shown on Figure 3.1.1-1. No residual adverse effects on air quality were identified.

Although the results of the Round 2 information requests confirm the results presented in the revised EIS (April 2018) that there are no exceedances of the appropriate values for ambient air quality objectives, a number of Round 2 Information Requests were received regarding the potential risks to human receptors via the inhalation pathway. Treasury Metals' recognizes that Project Workers may be exposed to CACs within the Operations Area (Study Area No. 1), and members of Indigenous communities may transiently pass through or visit areas that fall outside of the Operations Area, but within the Property Boundary of the Goliath Gold Project, to practice traditional uses of the lands and resources, however there are no places within the Property Boundary where prolonged exposure to these individuals would occur (i.e. at a hunting cabin). Project work and transient traditional land and resource use do not meet the CCME definition of a community-based receptor and thus determination of compliance with the application of ambient air criteria is not appropriate for these receptors. It should be noted that air quality is not typically modelled within the Property Boundary as part of the EA process unless sensitive receptors are present, as the federal and provincial criteria are only applicable at the Property Boundary or sensitive receptor locations. There are no sensitive receptors located within the Property Boundary of the Goliath Gold Project, however at the continued request of the Agency and Health Canada, modelling inside the Property Boundary was performed and used to determine the 95$^{th}$ UCLM concentrations. To capture the possible risk to peoples using these areas, the air modelling was redone in support of the HHRA using the same emissions and methods as presented in Section 6.6 of the revised EIS (April 2018), but focusing on possible modelling receptors covering the HHERA Study Areas. The refined modelling includes 308 modelling receptor located within the Operations Area (Study Area No. 1), 3,474 modelling receptor locations within the LSA (Study Area No. 2) 1,445 of which fall inside the Property Boundary, and at 46 modelling receptor locations within the Village of Wabigoon (Study Area No. 3). The revised air quality modelling grid in support of the HHERA is shown relative to the Property Boundary, the three Study Areas, and the location of the sensitive receptors on Figure 3.1.1-1.

The maximum concentrations for each parameter at each of the modelling receptors, and averaging periods evaluated were determined for the Site Preparation and Construction, Operations, and Closure phases of the Project. Given that this work was completed in support of the HHERA, the highest 95$^{th}$ UCLM of the modelled receptors in each of the Study Areas, over the five-year period modelled was selected as the EPC for each parameter within each Study Area. This approach is most appropriate for a detailed quantitative human health risk assessment (HHRA) as concentrations of chemicals vary spatially and temporally in the air to which humans are exposed. During long-term exposures, humans may move over areas, or in and out of impacted areas (for example between home and the Operations Area for Project Workers). As a result, individuals tend to integrate spatial and temporal variation in the chemical concentrations to which they are exposed. Therefore, estimates of the central tendency (e.g. arithmetic means, upper confidence limits) are generally used in human health exposure models as an expression of the spatial and temporal averaging of chemical concentrations in different media (U.S. EPA, 1992, 2001).

There are no air emission sources during the Post-Closure phase of the Project, thus no air quality modelling results are calculated for the Post-Closure phase. The CACs selected as a COC and requiring additional consideration for potential health effects herein, were appropriately based on Project Assessment Scenario, that is these values represent the predicted values as a result of the Project Alone, plus Background Air data.

## Tables 3.5.1-1: Human Health Screening of Predicted Air Quality– Site Preparation & Construction

| Compound | Averaging Period | Ambient Air Criteria (µg/m³) | Maximum at MPOI | | | Maximum at Sensitive Receptors | | |
|---|---|---|---|---|---|---|---|---|
| | | | Modelled Prediction | Background (1) | Cumulative Prediction | Modelled Prediction | Background (1) | Cumulative Prediction |
| TSP | 24-hour | 120 | 22 | 33 | 55 | 17 | 33 | 50 |
| | Annual | 60 | 3.8 | 14 | 18 | 2.7 | 14 | 17 |
| $PM_{10}$ | 24-hour | 50 | 6.2 | 15 | 21 | 4.7 | 15 | 20 |
| $PM_{2.5}$ | 24-hour | 27 | 0.90 | 10 | 11 | 0.76 | 10 | 11 |
| | Annual | 8.8 | 0.15 | 4.3 | 4.5 | 0.12 | 4.3 | 4.4 |
| Dustfall (2) | 30 day | 7.0 | 0.96 | — (3) | 0.96 | 0.65 | — | 0.65 |
| | Annual | 4.6 | 0.76 | — | 0.76 | 0.51 | — | 0.51 |
| CO | 1-hour | 36,200 | 15 | 1,248 | 1263 | 8.6 | 1,248 | 1,257 |
| | 8-hour (4) | 15,700 | 5.1 | 1,248 | 1253 | 2.5 | 1,248 | 1,251 |
| $NO_2$ | 1-hour | 80 | 50 | 29 | 79 | 36 | 29 | 65 |
| | 24-hour | 200 | 7.2 | 25 | 32 | 5.9 | 25 | 30 |
| | Annual | 23 | 1.0 | 14 | 15 | 0.84 | 14 | 15 |
| $SO_2$ | 1-hour | 170 | 0.77 | 4.0 | 4.8 | 0.65 | 4.0 | 4.7 |
| | 24-hour | 275 | 0.11 | 4.0 | 4.1 | 0.082 | 4.0 | 4.1 |
| | Annual | 8 | 0.013 | 1.0 | 1.0 | 0.010 | 1.0 | 1.0 |
| Arsenic | 24-hour | 0.3 | 0.00072 | 0.001 | 0.0017 | 0.00054 | 0.001 | 0.0015 |
| Barium | 24-hour | 10 | 0.011 | — | 0.011 | 0.0079 | — | 0.008 |
| Beryllium | 24-hour | 0.1 | 0.000053 | — | 0.000053 | 0.000040 | — | 0.000040 |
| Cadmium | 24-hour | 0.025 | 0.000076 | — | 0.000076 | 0.000057 | — | 0.000057 |
| Chromium | 24-hour | 0.1 | 0.0032 | 0.005 | 0.0082 | 0.0024 | 0.005 | 0.0074 |
| Cobalt | 24-hour | 0.5 | 0.00027 | — | 0.00027 | 0.00020 | — | 0.00020 |
| Lead | 24-hour | 0.5 | 0.0025 | 0.005 | 0.0075 | 0.0019 | 0.005 | 0.0069 |
| Manganese | 24-hour | 0.4 | 0.013 | 0.019 | 0.032 | 0.0095 | 0.019 | 0.028 |
| Nickel | 24-hour | 0.2 | 0.00086 | — | 0.00086 | 0.00065 | — | 0.00065 |
| | Annual | 0.04 | 0.00086 | — | 0.00086 | 0.00065 | — | 0.00065 |
| Phosphorous | 24-hour | 0.35 (*) | 0.011 | — | 0.011 | 0.0085 | — | 0.0085 |
| Platinum | 24-hour | 0.03 | 0.00045 | — | 0.00045 | 0.00034 | — | 0.00034 |
| Rhodium | 24-hour | 2 | 0.00013 | — | 0.00013 | 0.00010 | — | 0.00010 |
| Thallium | 24-hour | 0.4 (*) | 0.00038 | — | 0.00038 | 0.00028 | — | 0.00028 |
| Titanium | 24-hour | 0.2 | 0.041 | — | 0.041 | 0.031 | — | 0.031 |
| Uranium | 24-hour | 0.3 | 0.00022 | — | 0.00022 | 0.00017 | — | 0.00017 |
| | Annual | 0.06 | 0.00022 | — | 0.00022 | 0.00017 | — | 0.00017 |
| Vanadium | 24-hour | 0.24 | 0.0011 | — | 0.0011 | 0.00081 | — | 0.00081 |

Notes:

The above table supersedes Table 6.19.2.1-4 of the revised EIS (April 2018).

(1) The 1-hour and 24-hour background values were based on 90th percentile of the monitoring data. The annual background values were based on the highest of the annual mean value over the latest 5 years of available monitoring data (see Section 5.2.4)

(2) Predicted dustfall values are in units of g/m²/30 days. Annual values are averaged over 12 months.

(3) The "—" in the table indicates that background values were not available for the compound.

(4) The 8-hour predicted CO concentration is calculated from 1-hr predicted concentration using a published conversion factor [Ontario Regulation 419/05, 17(2)].

(*) Background metals per TMI_163-AE(1)-01.

## Tables 3.5.1-2: Human Health Screening of Predicted Air Quality– Operations

| Compound | Averaging Period | Ambient Air Criteria (µg/m³) | Maximum at MPOI | | | Maximum at Sensitive Receptors | | |
|---|---|---|---|---|---|---|---|---|
| | | | Modelled Prediction | Background (1) | Cumulative Prediction | Modelled Prediction | Background (1) | Cumulative Prediction |
| TSP | 24-hour | 120 | 28 | 33 | 61 | 14 | 33 | 47 |
| | Annual | 60 | 3.6 | 14 | 18 | 2.3 | 14 | 16.3 |
| $PM_{10}$ | 24-hour | 50 | 22 | 15 | 37 | 3.9 | 15 | 19 |
| $PM_{2.5}$ | 24-hour | 27 | 13 | 10 | 23 | 0.95 | 10 | 11 |
| | Annual | 8.8 | 0.73 | 4.3 | 5.0 | 0.16 | 4.3 | 4.5 |
| Dustfall (2) | 30 day | 7.0 | 1.5 | — (3) | 1.52 | 0.57 | — | 0.57 |
| | Annual | 4.6 | 0.95 | — | 0.95 | 0.45 | — | 0.45 |
| CO | 1-hour | 36,200 | 25 | 1,248 | 1273 | 10 | 1,248 | 1258 |
| | 8-hour | 15,700 | 13 | 1,248 | 1261 | 4.5 | 1,248 | 1253 |
| $NO_2$ | 1-hour | 80 | 80 | 29 | 110 | 28 | 29 | 57 |
| | 24-hour | 200 | 35 | 25 | 60 | 6.6 | 25 | 31 |
| | Annual | 23 | 9.2 | 14 | 23 | 0.99 | 14 | 15 |
| $SO_2$ | 1-hour | 170 | 4.6 | 4.0 | 8.6 | 0.18 | 4.0 | 4.2 |
| | 24-hour | 275 | 2.2 | 4.0 | 6.2 | 0.022 | 4.0 | 4.0 |
| | Annual | 8 | 0.58 | 1.0 | 1.6 | 0.0024 | 1.0 | 1.0 |
| Arsenic | 24-hour | 0.3 | 0.00090 | 0.001 | 0.0019 | 0.00044 | 0.001 | 0.0014 |
| Barium | 24-hour | 10 | 0.013 | — | 0.013 | 0.0065 | — | 0.0065 |
| Beryllium | 24-hour | 0.1 | 0.000066 | — | 0.000066 | 0.000033 | — | 0.000033 |
| Cadmium | 24-hour | 0.025 | 0.000095 | — | 0.000095 | 0.000047 | — | 0.000047 |
| Chromium | 24-hour | 0.1 | 0.0040 | 0.005 | 0.0090 | 0.0020 | 0.005 | 0.0070 |
| Cobalt | 24-hour | 0.5 | 0.00033 | — | 0.00033 | 0.00016 | — | 0.00016 |
| Lead | 24-hour | 0.5 | 0.0031 | 0.005 | 0.0081 | 0.0015 | 0.005 | 0.0065 |
| Manganese | 24-hour | 0.4 | 0.016 | 0.019 | 0.035 | 0.0078 | 0.019 | 0.027 |
| Nickel | 24-hour | 0.2 | 0.0011 | — | 0.0011 | 0.00053 | — | 0.00053 |
| | Annual | 0.04 | 0.0011 | — | 0.0011 | 0.00053 | — | 0.00053 |
| Phosphorous | 24-hour | 0.35 (*) | 0.014 | — | 0.014 | 0.0070 | — | 0.0070 |
| Platinum | 24-hour | 0.03 | 0.00057 | — | 0.00057 | 0.00028 | — | 0.00028 |
| Rhodium | 24-hour | 2 | 0.00017 | — | 0.00017 | 0.00008 | — | 0.00008 |
| Thallium | 24-hour | 0.4 (*) | 0.00048 | — | 0.00048 | 0.00023 | — | 0.00023 |
| Titanium | 24-hour | 0.2 | 0.051 | — | 0.051 | 0.025 | — | 0.025 |
| Uranium | 24-hour | 0.3 | 0.00028 | — | 0.00028 | 0.00014 | — | 0.00014 |
| | Annual | 0.06 | 0.00028 | — | 0.00028 | 0.00014 | — | 0.00014 |
| Vanadium | 24-hour | 0.24 | 0.0014 | — | 0.0014 | 0.00066 | — | 0.00066 |

Notes:

The above table supersedes Table 6.19.2.1-4 of the revised EIS (April 2018).

(1) The 1-hour and 24-hour background values were based on 90th percentile of the monitoring data. The annual background values were based on the highest of the annual mean value over the latest 5 years of available monitoring data (see Section 5.2.4)

(2) Predicted dustfall values are in units of g/m²/30 days. Annual values are averaged over 12 months.

(3) The "—" in the table indicates that background values were not available for the compound.

(*) Background metals per TMI_163-AE(1)-01.

## Tables 3.5.1-3: Human Health Screening of Predicted Air Quality— Closure

| Compound | Averaging Period | Ambient Air Criteria (µg/m³) | Maximum at MPOI | | | Maximum at Sensitive Receptors | | |
|---|---|---|---|---|---|---|---|---|
| | | | Modelled Prediction | Background (1) | Cumulative Prediction | Modelled Prediction | Background (1) | Cumulative Prediction |
| TSP | 24-hour | 120 | 23 | 33 | 56 | 17 | 33 | 50 |
| | Annual | 60 | 3.8 | 14 | 18 | 2.7 | 14 | 16.7 |
| $PM_{10}$ | 24-hour | 50 | 6.2 | 15 | 21 | 4.5 | 15 | 20 |
| $PM_{2.5}$ | 24-hour | 27 | 0.83 | 10 | 11 | 0.65 | 10 | 11 |
| | Annual | 8.8 | 0.15 | 4.3 | 4.5 | 0.11 | 4.3 | 4.4 |
| Dustfall (2) | 30 day | 7.0 | 0.95 | — (3) | 0.95 | 0.63 | — | 0.63 |
| | Annual | 4.6 | 0.76 | — | 0.76 | 0.49 | — | 0.49 |
| CO | 1-hour | 36,200 | 11 | 1248 | 1259 | 3.5 | 1,248 | 1251 |
| | 8-hour | 15,700 | 3.3 | 1,248 | 1,251 | 1.4 | 1,248 | 1249 |
| $NO_2$ | 1-hour | 80 | 30 | 29 | 59 | 12 | 29 | 41 |
| | 24-hour | 200 | 4.0 | 25 | 29 | 3.3 | 25 | 28 |
| | Annual | 23 | 0.70 | 14 | 14 | 0.48 | 14 | 14 |
| $SO_2$ | 1-hour | 170 | 0.78 | 4.0 | 4.8 | 0.60 | 4.0 | 4.6 |
| | 24-hour | 275 | 0.14 | 4.0 | 4.1 | 0.11 | 4.0 | 4.1 |
| | Annual | 8 | 0.015 | 1.0 | 1.0 | 0.0092 | 1.0 | 1.0 |
| Arsenic | 24-hour | 0.3 | 0.00072 | 0.001 | 0.0017 | 0.00053 | 0.001 | 0.0015 |
| Barium | 24-hour | 10 | 0.011 | — | 0.011 | 0.0078 | — | 0.0078 |
| Beryllium | 24-hour | 0.1 | 0.000053 | — | 0.000053 | 0.000039 | — | 0.000039 |
| Cadmium | 24-hour | 0.025 | 0.000077 | — | 0.000077 | 0.000056 | — | 0.000056 |
| Chromium | 24-hour | 0.1 | 0.0033 | 0.005 | 0.0083 | 0.0024 | 0.005 | 0.0074 |
| Cobalt | 24-hour | 0.5 | 0.00027 | — | 0.00027 | 0.00020 | — | 0.00020 |
| Lead | 24-hour | 0.5 | 0.0025 | 0.005 | 0.0075 | 0.0018 | 0.005 | 0.0068 |
| Manganese | 24-hour | 0.4 | 0.013 | 0.019 | 0.032 | 0.0093 | 0.019 | 0.028 |
| Nickel | 24-hour | 0.2 | 0.00087 | — | 0.00087 | 0.00063 | — | 0.00063 |
| | Annual | 0.04 | 0.00087 | — | 0.00087 | 0.00063 | — | 0.00063 |
| Phosphorous | 24-hour | 0.35 (*) | 0.011 | — | 0.011 | 0.0084 | — | 0.0084 |
| Platinum | 24-hour | 0.03 | 0.00046 | — | 0.00046 | 0.00033 | — | 0.00033 |
| Rhodium | 24-hour | 2 | 0.00014 | — | 0.00014 | 0.00010 | — | 0.00010 |
| Thallium | 24-hour | 0.4 (*) | 0.00038 | — | 0.00038 | 0.00028 | — | 0.00028 |
| Titanium | 24-hour | 0.2 | 0.041 | — | 0.041 | 0.030 | — | 0.030 |
| Uranium | 24-hour | 0.3 | 0.00023 | — | 0.00023 | 0.00017 | — | 0.00017 |
| | Annual | 0.06 | 0.00023 | — | 0.00023 | 0.00017 | — | 0.00017 |
| Vanadium | 24-hour | 0.24 | 0.0011 | — | 0.0011 | 0.00079 | — | 0.00079 |

Notes:

The above table supersedes Table 6.19.2.1-4 of the revised EIS (April 2018).

(1) The 1-hour and 24-hour background values were based on 90th percentile of the monitoring data. The annual background values were based on the highest of the annual mean value over the latest 5 years of available monitoring data (see Section 5.2.4)

(2) Predicted dustfall values are in units of g/m²/30 days. Annual values are averaged over 12 months.

(3) The "—" in the table indicates that background values were not available for the compound.

(*) Background metals per TMI_163-AE(1)-01.

### 3.5.2 Inorganic Contaminants of Concern

Metal concentrations in particulate matter (i.e., total suspended particulates [TSP]) and dustfall were predicted using the UCLM of the waste rock assay and tailings/ore assay results. The particular matter and dustfall predictions were based on the modelled receptors described in the revised air quality modelling grid in support of the HHERA (Figure 3.1.1-1).

The chemical analysis of waste rock and ore was completed as part of Treasury Metals' exploration program and therefore included rare metals (for example Tantalum, Germanium, Hafnium, Indium) for which there is insufficient toxicity data to support derivation of a risk-based soil, air, or water guideline or standard or the chemical is considered a micro or macro nutrient, essential to the health of an organism or ecosystem. Data from baseline measurements, chemical assays, or predictive modelling are provided in Appendix A. However, for the sake of the HHERA, only those chemicals that are currently known or suspected to have potential toxicity to humans or ecological receptors are presented herein and considered for a quantitative and qualitative assessment of potential risk. The data provided in Appendix A may be used as part of Follow-Up Programs for the HHERA (as described in Section 13 of the revised EIS (April 2018) and Section 6.0 of the HHERA Report) in the event new toxicity data emerges for those parameters.

Inorganic COCs in air, soil, water, or Project-specific media were selected based on an EPC exceeding an applicable environmental quality standard or guideline. Methylmercury, although an organic chemical was also considered given the biotransformation from inorganic mercury which may occur in environmental systems. Special consideration was given to chemicals that have the ability to transform or bioaccumulate within organisms (e.g., mercury), or where meaningful engagement activities have identified community interest in specific chemicals (e.g., methylmercury, and lead).

In all environmental and Project-specific water media the concentration of methylmercury (which was not measured as part of baseline studies) was conservatively assumed to equal 10% of the concentration of mercury (measured or predicted as part of baseline studies). The laws of chemical stoichiometry dictate that mercury must in turn equal 90% of its concentration if it is assumed that 10% is being methylated. As part of the Round 2 information request process, the surface water quality modeling was revised to include sulphate predicted sulphate concentrations and an evaluation of the potential for enhanced methylmercury production (see TMI_889-SW(2)-06). Recent literature (Ullrich, 2001; Jeremiason et al., 2006) has suggested that, in the presence of organic materials, the production of methylmercury varies with the concentrations of sulphate present in the environment. The literature indicates that when sulphate concentrations are in the range of 20 to 50 mg/L, the rate methylation of mercury is enhanced by the presence of sulphate-reducing bacteria. The literature also indicates that the rate methylation is inhibited at sulphate concentrations above and below this range. According to the CCME (2003), typically methylmercury represents 10% of the total mercury in surface waters but can exceed 30% in perturbed systems such as newly formed reservoirs. The results of the revised surface water modelling in support of the Round 2 process indicated that the concentrations of sulphate are not within the 20-50 mg/L optimal range for enhanced methylmercury production, thus setting the methylmercury concentration to 10% of the mercury concentration is appropriate.

Chemical concentrations of selected inorganic COCs in air, soil, water or Project-specific media were then modelled into plants and soil organisms, mammals and birds, and aquatic receptors including fish for use

in the country foods component of the human health risk assessment, and for use in the ecological risk assessment.

### 3.5.3 Contaminant of Concern Screening

#### 3.5.3.1 Criteria Air Contaminants

The results of the HHRA screening (Table 3.5.3.1-1,), identified that three (3) valued components/criteria air contaminants; nitrogen dioxide ($NO_2$), and both fractions of particulate matter ($PM_{10}$ and $PM_{2.5}$) exceeded their respective ambient air quality criteria inside the Operations Area and only during the active phases of mining, thereby indicating that potential risk to Project Workers via the inhalation pathway may not be considered negligible. It is again noted that air quality is not typically modelled within the Property Boundary as part of the EA process unless sensitive receptors are present, as the federal and provincial criteria are only applicable at the Property Boundary or sensitive receptor locations. There are no sensitive receptors located within the Property Boundary of the Goliath Gold Project, however at the continued request of the Agency and Health Canada, modelling inside the Property Boundary was performed and used to determine the 95th UCLM concentrations. Parameters that exceeded their initial screening are considered for quantitative assessment. Health Canada advised Treasury Metals and their consultants that they no longer support the quantitative assessment of potential health risks of $PM_{10}$ and $PM_{2.5}$ (using the SUM25 and SUM15 approach as per the 1999 Federal - Provincial Working Group on Air Quality Objectives and Guidelines report or other), therefore potential effects to workers are assumed. Health Canada also requested that diesel particulate matter (DPM) be included in the health assessment even though there are no federal or provincial criteria available within Canada. As part of the Round 2 process Health Canada advised Treasury Metals to follow the guidance set out the recent Health Canada report entitled *"Human Health Risk Assessment for Ambient Nitrogen Dioxide"*, dated 2016, and requested that the following endpoints within that guidance document be considered:

- Short-term (acute exposure) respiratory effects (asthma)
- Short-term (acute exposure) all-cause mortality
- Long-term (chronic exposure) respiratory mortality

Full details regarding the quantitative assessment for $NO_2$ and DPM are provided in the subsections below.

The results indicated that with a Health and Safety Plan including the prescribe use of personal protective equipment including dust masks will be implemented for all Project Workers of the Goliath Gold Project. The Health and Safety Plan will serve as an appropriate risk management/ mitigation measure to mitigate any adverse health effect. With a Health and Safety Plan implemented as a risk management measure, exposure via the inhalation pathway is considered negligible and no residual adverse effects are identified to Project Workers.

Concentrations of all CACs modelled in the LSA (including areas within the Property Boundary) and the Village of Wabigoon were below their criteria protective of human health, therefore health risks to

residents or visitors/ harvesters who may practice traditional land and resource use are considered essentially negligible. No residual adverse effects were identified.

Although the results of the HHERA do not indicate that risk management or mitigation measures are required during traditional land and resource use, as part of the sign in and access policy, Treasury Metals will offer appropriate personal protective equipment to those who prefer to wear it while within the Property Boundary. Treasury Metals has also committed to consult with Indigenous communities regarding the placement of dustfall monitoring jars to target areas of potential impact that overlap with areas where traditional land and resource occurs (this information will be shared confidentially by the community in the formal Traditional Knowledge studies completed, underway or expected in the future).

**Table 3.5.3.1-1- Selection of Criteria Air Contaminants as Contaminants of Concern**

| Compound | Period | Ontario (Canadian*) Ambient Air Criteria | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon |
| CO | 1-hour | 36200 | 1271.423 | 1253.927 | 1250.677 | 1281.336 | 1257.600 | 1252.086 | 1263.093 | 1251.207 | 1249.839 |
| CO | 24-hour | — | 1257.513 | 1248.933 | 1248.254 | 1262.951 | 1250.685 | 1248.592 | 1256.456 | 1248.671 | 1248.142 |
| CO | Annual | — | 2.770 | 0.137 | 0.030 | 3.736 | 0.575 | 0.077 | 2.121 | 0.103 | 0.020 |
| Dustfall | 1-hour | — | 164.931 | 34.344 | 22.538 | 345.187 | 29.736 | 15.118 | 151.837 | 32.012 | 21.270 |
| Dustfall | 24-hour | — | 93.613 | 5.567 | 1.182 | 104.920 | 5.082 | 0.776 | 91.699 | 5.538 | 1.156 |
| Dustfall | Annual | 4.6 | **15.904** | 0.646 | 0.120 | **13.788** | 0.748 | 0.092 | **15.555** | 0.649 | 0.116 |
| Dustfall | Monthly | 7 | **29.849** | 1.401 | 0.304 | **28.402** | 1.364 | 0.213 | **29.206** | 1.403 | 0.294 |
| $NO_2$ | 1-hour | 400 | 115.257 | 54.443 | 40.402 | 114.244 | 64.402 | 43.164 | 76.145 | 41.859 | 36.543 |
| $NO_2$ | 1-hour* | 79 | **115.257** | 54.443 | 40.402 | **114.244** | 64.402 | 43.164 | 76.145 | 41.859 | 36.543 |
| $NO_2$ | 24-hour | 200 | 53.407 | 29.088 | 26.936 | 59.285 | 34.281 | 27.290 | 47.805 | 27.882 | 26.417 |
| $NO_2$ | Annual | — | 23.071 | 14.837 | 14.499 | 21.829 | 16.203 | 14.566 | 20.247 | 14.692 | 14.456 |
| $NO_2$ | Annual* | 22.6 | **23.071** | 14.837 | 14.499 | 21.829 | 16.203 | 14.566 | 20.247 | 14.692 | 14.456 |
| $PM_{10}$ | 1-hour | — | 70.174 | 15.779 | 9.626 | 354.855 | 26.597 | 8.114 | 62.868 | 14.630 | 8.970 |
| $PM_{10}$ | 24-hour | 50 | **56.098** | 18.034 | 15.703 | **116.779** | 19.897 | 15.719 | **54.815** | 17.976 | 15.679 |
| $PM_{10}$ | Annual | — | 15.962 | 6.819 | 6.459 | 16.535 | 6.927 | 6.458 | 15.617 | 6.814 | 6.456 |
| $PM_{2.5}$ | 1-hour | — | 10.463 | 2.399 | 1.389 | 181.967 | 13.780 | 3.525 | 9.111 | 2.018 | 1.201 |
| $PM_{2.5}$ | 24-hour | 27 | 15.840 | 10.453 | 10.101 | **61.757** | 12.616 | 10.374 | 15.571 | 10.419 | 10.092 |
| $PM_{2.5}$ | Annual | 8.8 | 5.763 | 4.368 | 4.315 | 7.111 | 4.500 | 4.325 | 5.655 | 4.364 | 4.313 |
| $SO_2$ | 1-hour | 690 | 5.541 | 4.348 | 4.121 | 4.336 | 4.421 | 4.064 | 5.397 | 4.351 | 4.107 |
| $SO_2$ | 1-hour* | 170.3 | 5.541 | 4.348 | 4.121 | 4.336 | 4.421 | 4.064 | 5.397 | 4.351 | 4.107 |
| $SO_2$ | 24-hour | 275 | 4.356 | 4.041 | 4.014 | 4.060 | 4.077 | 4.006 | 4.328 | 4.045 | 4.012 |
| $SO_2$ | Annual | 55 | 1.098 | 1.005 | 1.001 | 1.011 | 1.018 | 1.001 | 1.093 | 1.006 | 1.001 |
| $SO_2$ | Annual* | 10.5 | 1.098 | 1.005 | 1.001 | 1.011 | 1.018 | 1.001 | 1.093 | 1.006 | 1.001 |
| TSP | 1-hour | — | 246.293 | 56.597 | 34.880 | 546.506 | 56.724 | 29.182 | 231.273 | 53.710 | 32.963 |
| TSP | 24-hour | 120 | **183.224** | 43.960 | 35.553 | **207.259** | 44.185 | 35.143 | **180.086** | 43.896 | 35.497 |
| TSP | Annual | 60 | 48.726 | 15.640 | 14.343 | 44.947 | 15.802 | 14.303 | 47.986 | 15.643 | 14.335 |

**NOTES:**

| | |
|---|---|
| Units | All units in $\mu g/m^3$ |
| * | Value represents future criteria effective in 2025. |
| 1 | The 1-hour, ½-hour, and 24-hour background values were based on 90th percentile of the monitoring data. The annual background values were based on the highest of the annual mean value over the latest 5 years of available monitoring data. |
| 3 | Predicted dustfall values are in units of $g/m^2/30$ days. |
| 4 | There are no source of air emissions during the Post-Closure phase, therefore there were no concentrations predicted. |
| 5 | The screening criteria are based on the relevant Ontario Ambient Air Quality Objectives, with the exception of $PM_{2.5}$, $SO_2$, and $NO_2$. The Canadian Ambient Air Quality Standards for $PM_{2.5}$, $SO_2$, and $NO_2$ will be reduced after 2020. |
| **BOLD & SHADED** | Concentration is Larger than Criteria for a Sensitive Receptor, quantitative assessment provided (where applicable as per current Health Canada regulatory guidance) |
| **BOLD & SHADED** | Concentration is Larger than Criteria for a Sensitive Receptor, however criteria set based on aesthetic endpoint rather than human health. No further assessment for potential effects on human health is required. |

## Quantitative Assessment of Nitrogen Dioxide

The predicted EPC of $NO_2$ exceeded the criteria within the Operations Area for the 1-hr $NO_2$ and Annual $NO_2$ averaging period for the Site Preparation and Construction phase, and 1-hr $NO_2$ averaging period for the Operations phase of the Project. A quantitative assessment is therefore required for 1-hr $NO_2$ and annual $NO_2$ concentrations within the Operations Area during Site Preparation and Construction and for 1-hr $NO_2$ within the Operations Area during Operations.

At the request of Health Canada and the Agency, as set out in TMI_911 HE(2)-11 (IR# HE(2)-11), $NO_2$ is considered a non-threshold chemical and Project Worker exposure to $NO_2$ within the Operations Area is assessed using following endpoints as per Health Canada's 2016 guidance document entitled *"Human Health Risk Assessment for Ambient Nitrogen Dioxide*".

- Short-term (acute exposure) respiratory effects (asthma)
- Short-term (acute exposure) all-cause mortality
- Long-term (chronic exposure) respiratory mortality

Although the new CAAQS do not include a health based criteria for the 24-hr $NO_2$ averaging period, the Health Canada includes relationships for short-term health effect for $NO_2$ for both 1-hour and 24-hour exposure periods. Therefore, where the 1-hr $NO_2$ EPC was predicted to exceed the 1-hr $NO_2$ CAAQS (applicable at community-based receptors), both the 1-hour $NO_2$ and the 24-hr $NO_2$ health effects were conservatively included in the quantitative assessment using the methods suggested within the 2016 Health Canada guidance, which reports statistically significant interactions between 24-hr $NO_2$ data and health outcomes.

Table 3.5.3.1-2 provides a summary of the predicted $NO_2$ EPCs (in units of $\mu g/m^3$) that exceeded the criteria appropriate for use at sensitive receptors, and that require a quantitative assessment of potential human health risks. Table 3.5.3.1-3 provides the same summary of predicted $NO_2$ EPC, however the EPCs have been converted from $\mu g/m^3$ to ppb to be consistent with the units provided in the 2016 Health Canada guidance for health effects of $NO_2$. The original literature referenced in Health Canada's guidance document report health outcome based on incremental increases in $NO_2$; therefore, the EPC of $NO_2$ without background $NO_2$ (i.e., Project Alone) has been appropriately considered for the quantitative assessment of the potential health effects associated with increased $NO_2$ concentrations in air as a result of the Project. The Project Alone $NO_2$ EPC in ppb are provided in Table 3.5.3.1-4

**Table 3.5.3.1-2: Exposure Point Concentrations (µg/m$^3$) of Nitrogen Dioxide ($NO_2$) [(1)], by Project Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] |
| Operations Area [(2)] | **115.3** | 53.4 | **23.1** | **114.2** | 59.3 | — | — | — | — |
| Local Study Area | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — |

NOTES:

(1) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.
(2) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).
(3) Includes background 1-hour $NO_2$ of 31.96 µg/m$^3$.
(4) Includes background 24-hour $NO_2$ of 26.01 µg/m$^3$.
(5) Although CCME has dropped 24-hour $NO_2$ from it Canadian Ambient Air Quality Standards (CAAQS), the value is included for completeness.
(6) Includes background annual $NO_2$ of 14.4 µg/m$^3$.

**Table 3.5.3.1-3: Exposure Point Concentrations (ppb) of Nitrogen Dioxide ($NO_2$) [(1)], by Project Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] | 1-hr [(3)] | 24-hr [(4,5)] | Annual [(6)] |
| Operations Area [(2)] | **61.3** | 28.4 | **12.3** | **60.8** | 31.5 | — | — | — | — |
| Local Study Area | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — |

NOTES:

(1) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.
(2) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).
(3) Includes background 1-hour $NO_2$ of 17.0 ppb.
(4) Includes background 24-hour $NO_2$ of 13.8 ppb.
(5) Although CCME has dropped 24-hour $NO_2$ from it Canadian Ambient Air Quality Standards (CAAQS), the value is included for completeness.
(6) Includes background annual $NO_2$ of 7.66 ppb.

**Table 3.5.3.1-4 Project Only Exposure Point Concentrations (ppb) of Nitrogen Dioxide ($NO_2$) [(1)], by Project Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1-hr | 24-hr [(3)] | Annual | 1-hr | 24-hr [(3)] | Annual | 1-hr | 24-hr [(3)] | Annual |
| Operations Area [(2)] | 44.3 | 14.6 | 4.6 | 43.8 | 17.7 | — | — | — | — |
| Local Study Area | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — |

NOTES:

(1) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.
(2) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).
(3) Although CCME has dropped 24-hour $NO_2$ from it Canadian Ambient Air Quality Standards (CAAQS), the value is included for completeness.

The $NO_2$ EPCs presented in Table 3.5.3.1-4 have been employed to quantify potential health outcomes as a result of the Project. The results considering potential short-term (acute exposure) respiratory effects as an endpoint are presented in Table 3.5.3.1-5. The results considering potential short-term (acute exposure) all-cause mortality as an endpoint are presented in Table 3.5.3.1-6. Finally, the results considering potential long-term (chronic exposure) respiratory mortality as an endpoint are presented in Table 3.5.3.1-7.

The literature cited in the 2016 Health Canada document entitled "*Human Health Risk Assessment of Ambient Nitrogen Dioxide*" indicate that there are data available to support statistically significant relationships between increased concentrations of nitrogen dioxide ($NO_2$) in ambient air and potential risks to human health. The results presented in Tables 3.5.3.1-5 through 3.5.3.1-7 show the estimated increase in the rates of health outcomes, or the number of additional health outcomes, based on population relationships presented in the 2016 Health Canada document. These data would be most appropriate for use in areas as densely populated as the studied relied upon for the collection of data, and it should be noted that the population of Project Workers within the Operations Area is anticipated to be approximately 350 Project Workers, which would be three orders of magnitude lower than the smallest population study cited in the 2016 Health Canada $NO_2$ document, relied on herein to estimate potential health outcomes. As such, the results presented in Tables 3.5.3.1.-5 through 3.5.3.1-7 are anticipated to overestimate potential health outcomes by proportional magnitudes. Furthermore, upon review of the document, and associated literature studied relied upon, it appears that the data correlations are strongest for the 1-hr $NO_2$ and 24-hr $NO_2$ averaging periods. Although the annual $NO_2$ concentrations were quantitatively assessed herein (Table 3.5.3.1-7), it is noteworthy to mention that Health Canada (2016) has stated that there are currently no Canadian or American studies that report [statistically] significant correlations between long-term exposure to $NO_2$ and respiratory mortality, and that all of the studies examining the potential results for lung cancer were inconclusive. Based on the relatively small numbers presented in Tables 3.5.3.1-5 through 3.5.3.1-7, a review of the relevant literature cited by Health Canada, and an understanding of the site-specific receptors and land use in the Operations Area of the Project, it is unlikely that any adverse health outcomes would be observed to Project Workers in the Operations Area as a result of $NO_2$ emissions associated with the Project. However, if a Project Worker has a predisposition of respiratory disorders such as asthma or bronchitis, additional health and safety measures may be considered appropriate for that individual. Otherwise, as per good health and safety practices, an occupational health and safety plan would be in place for Project Workers and serve as an appropriate risk management/ mitigation measure. It should re-stated that there would be no public access to the Operations Area throughout the active life of the Project. As such no potential risks are anticipated as a result of $NO_2$ concentrations in air within Operations Area.

**Table 3.5.3.1-5: Short-Term Acute Population [(1)] Respiratory Effects (i.e., asthma) of Increased Nitrogen Dioxide ($NO_2$) [(2,3)], by Project Phase**

| Study Area | Site Preparation and Construction | | | | Operations | | | | Closure | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1-hr [(5)] | 1-hr [(6)] | 24-hr (7,8) | Annual (9) | 1-hr [(5)] | 1-hr [(6)] | 24-hr (7,8) | Annual (9) | 1-hr [(5)] | 1-hr [(6)] | 24-hr (7,8) | Annual (9) |
| Operations Area [(4)] | 13.99% | 3.56 | 1.50 | — | 13.82% | 3.52 | 1.82 | — | 7.42% | 1.89 | 1.19 | — |
| Local Study Area | — | — | — | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — | — | — | — |

NOTES:

(1) As per Strickland et al. (2010), Jalaludin et al. (2008), and Griniski et al. (2011), as cited by Health Canada (2016), health effects of increased $NO_2$ were based on population relationships.

(2) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.

(3) As the studies relied on by Health Canada (2016) define health effects based on changes in $NO_2$ concentrations (rather than absolute concentrations), the table presents the effects based on Project only concentrations.

(4) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

(5) The numbers represent the estimated increase in the rates of paediatric hospital admissions for asthma within the resident population. As per Jalaludin et al. (2008), as cited by Health Canada (2016), short-term exposures to increases of 9.5 ppb in 1-hour $NO_2$ were found to result in a 3.0% increase in paediatric hospital admissions (ages 1–4) for asthma within the population of Sydney, Australia (approximately 5,000,000). The same study found no significant increases in children aged 5–9 and 10–14.

(6) The numbers represent the estimated increase in the number of paediatric hospital admissions for asthma within the resident population. As per Strickland et al. (2010), as cited by Health Canada (2016), short-term exposures to increases of 12.9 ppb in 1-hour $NO_2$ were found to result in 1.036 additional paediatric hospital admissions for asthma within the population of Atlanta (approximately 470,000).

(7) The numbers represent the estimated increase in the number of all-age hospital admissions for asthma within the resident population. As per Grineski et al. (2011), as cited by Health Canada (2016), short-term exposures to increases of 10 ppb in 24-hour $NO_2$ were found to result in 1.03 additional all-age hospital admissions for asthma within the population of El Paso (approximately 680,000).

(8) Although CCME has dropped 24-hour $NO_2$ from it Canadian Ambient Air Quality Standards (CAAQS), the value is included for completeness.

(9) Annual concentrations are not relevant for evaluating short-term (acute) effects of $NO_2$ on health.

**Table 3.5.3.1-6: Short-Term Acute Population [1] All-cause Mortality Effects of Increased Nitrogen Dioxide ($NO_2$) [2,3], by Project Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1-hr [5] | 24-hr [6,7] | Annual [5] | 1-hr | 24-hr [5] | Annual [7] | 1-hr | 24-hr [5] | Annual [7] |
| Operations Area [4] | — | 1.46% | — | — | 1.78% | — | — | 1.16% | — |
| Local Study Area | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — |

NOTES:

(1) As per Brunett et al. (2004), as cited by Health Canada (2016), mortality of increased $NO_2$ were based on increases to existing population mortality levels.
(2) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.
(3) As the studies relied on by Health Canada (2016) define health effects based on changes in $NO_2$ concentrations (rather than absolute concentrations), the table presents the effects based on Project only concentrations.
(4) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).
(5) Burnett et al. (2004), relied on by Health Canada (2016), presents short-term, all-cause mortality using the 24-hour $NO_2$ only.
(6) The numbers represent the estimated increase in the rates of all-cause mortality within the resident population. As per Brunett et al. (2004), as cited by Health Canada (2016), short-term exposures to increases of 22.4 ppb in 24-hour NO2 were found to result in 2.25% increase in all-cause mortality within urban populations within 12 Canadian cities.
(7) Although CCME has dropped 24-hour $NO_2$ from it Canadian Ambient Air Quality Standards (CAAQS), the value is included for completeness.

**Table 3.5.3.1-7: Long-Term Chronic Population [(1)] Respiratory All-cause Mortality Effects of Increased Nitrogen Dioxide ($NO_2$) [(2,3)], by Project Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1-hr [(5)] | 24-hr [(5)] | Annual [(6,7)] | 1-hr [(5)] | 24-hr [(5)] | Annual [(6,7)] | 1-hr [(5)] | 24-hr [(5)] | Annual [(6,7)] |
| Operations Area [(4)] | — | — | 0.58 | — | — | 0.50 | — | — | 0.39 |
| Local Study Area | — | — | — | — | — | — | — | — | — |
| Village of Wabigoon | — | — | — | — | — | — | — | — | — |

NOTES:

(1) As per two unreferenced European studies cited by Health Canada (2016), increased annual $NO_2$ was found to result in increases to existing population mortality levels.
(2) For the purposes of this analysis, complete conversion of $NO_X$ to $NO_2$ was conservatively assumed.
(3) As the studies relied on by Health Canada (2016) define health effects based on changes in $NO_2$ concentrations (rather than absolute concentrations), the table presents the effects based on Project only concentrations.
(4) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).
(5) The two unreferenced European studies cited by Health Canada (2016), presents long-term respiratory mortality based on annual $NO_2$ only.
(6) The numbers represent the estimated increase in the number of respiratory mortality within the resident population. As per two unreferenced European studies cited by Health Canada (2016), long-term exposures to increases of 10 ppb in annual $NO_2$ were found to result in 1.01 additional respiratory mortalities within the population.
(7) According to Health Canada (2016), available Canadian and American studies indicate that only non-significant associations exist between long-term exposures to $NO_2$ and respiratory mortality, and results for lung cancer are inconclusive.

## Quantitative Assessment of Diesel Particulate Matter

In addition to the CACs discussed above, for which there are regulatory criteria available in Canada (i.e., CO, $NO_2$, $SO_2$, TSP, $PM_{10}$, and $PM_{2.5}$.) the Round 2 information requests included TMI_878-AE(2)-02 (IR# AE(2)-02) and TMI_931-HE(2)-11 (IR# HE(2)-11) that explicitly requested that the human health risk include a quantitative assessment of incremental cancer risk resulting from exposure to diesel particulate matter (DPM) using the unit risk and inhalation slope factor available from the California Office of Health Hazard Assessment, California EPA (2015). As discussed with the Agency and the Agency reviewers on July 26, 2018, the air quality assessment completed to support the revised EIS (April 2018) does explicitly identify the sources of exhaust particulate associated with the Project, and includes those emissions as part of the modelling of airborne concentrations of total suspended particulates (TSP), inhalable particulate matter ($PM_{10}$) and respirable particulate matter ($PM_{2.5}$).

The diesel particulate matter (DPM) emissions associated with the Project have been calculated for Site Preparation and Construction, Operations, and Closure phases of the Project and the numbers tabulated in Table 3.5.3.1-8. In tabulating the DPM emissions, the following is noted:

- All of the tailpipe particulate emissions associated with the Project are considered to be emissions of diesel particulate matter (DPM).
- All of the particulate (TSP, $PM_{10}$ and $PM_{2.5}$) emissions from the backup generators are considered to be emissions of diesel particulate matter (DPM).
- A portion of the particulate matter in the exhaust from underground mine workings (i.e., vent raises) will be emitted from the tailpipes of vehicles operating underground. For the purposes of calculating exposures, it was conservatively assumed that diesel particulate matter (DPM) represents 50% of the particulate matter released from the vent raises.
- As diesel particulate matter (DPM) in comprised of particles that are nearly all less than 1 µm in diameter, the particulate emissions of TSP, $PM_{10}$ and $PM_{2.5}$ from diesel combustion are numerically the same (see Table 3.5.3.1-8) as each other.

As the DPM emissions from the Project are associated with the same source groups as the overall particulate matter emissions, it is reasonable to conclude that the resulting concentrations of diesel particulate matter (DPM) would relate to the overall particulate predictions in a manner consistent with the proportional emissions. Table 3.5.3.1-9 provides a comparison of the overall particulate emissions from the Project to the emissions of DPM.

Although there are currently no Canadian regulatory limits for DPM in Canada, the State of California has established levels for use in describing the chronic cancer and non-cancer risks associated with exposure to DPM. At the request of the Agency and their reviewers, consideration has been given to the potential chronic effects of DPM on human health herein for the three Study Areas assessed.

Table 3.5.3.1-10 provides a summary of the modelled annual exposure point concentrations of TSP, $PM_{10}$ and $PM_{2.5}$ for each of the Study Areas used in the human health risk assessment. The corresponding exposure point concentrations for DPM from the Project can be determined by applying the corresponding relationships between the emissions of particulate matter and DPM emissions to the

relevant predicted particulate exposure point concentrations. To ensure the assessment is conservative, Table 3.5.3.1-11 presents the calculation of DPM exposure point concentrations for each of the Project phases for: (1) using the relationship between TSP and DPM; (2) using the relationship between $PM_{10}$ and DPM; and (3) using the relationship between $PM_{2.5}$ and DPM. The relationship that gives the highest DPM concentrations for each phase and Study Area are summarized in Table 3.5.3.1-12. These values are used in the human health risk assessment.

**Table 3.5.3.1-8: Diesel Particulate Matter (DPM) Emissions (Mg/yr) by Project Phase**

| Emission Source | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | TSP | $PM_{10}$ | $PM_{2.5}$ | TSP | $PM_{10}$ | $PM_{2.5}$ | TSP | $PM_{10}$ | $PM_{2.5}$ |
| Haul Roads (1) | 3.469 | 3.469 | 3.469 | 2.807 | 2.807 | 2.807 | 3.469 | 3.469 | 3.469 |
| Bulldozer 1 (1) | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 |
| Bulldozer 2 (1) | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 | 0.312 |
| Bulldozer_3 (1) | — | — | — | 0.312 | 0.312 | 0.312 | — | — | — |
| Loader (1) | 0.473 | 0.473 | 0.473 | 0.473 | 0.473 | 0.473 | 0.473 | 0.473 | 0.473 |
| Excavator (1) | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 | 0.240 | 0.240 | 0.240 |
| Back-up generators (2) | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 |
| Vent raises (3) | 0 | 0 | 0 | 9.5 | 9.5 | 9.5 | 0 | 0 | 0 |
| **TOTAL DPM Emissions** | **8.686** | **8.686** | **8.686** | **17.836** | **17.836** | **17.836** | **6.806** | **6.806** | **6.806** |

NOTES:

(1) Tailpipe emissions of diesel particulate matter (DPM) are taken directly from Appendix B to Appendix J-2 (Environmental Air Quality Assessment) prepared by RWDI Air Inc. Specifically, the Site Preparation and Construction phase DPM emissions were taken from Appendix B2 to Appendix J-2, the Operations phase DPM emissions were taken from Appendix B7 to Appendix J-2, and the Closure phase DPM emissions were taken from Appendix B18 to Appendix J-2.

(2) All of the particulate emissions from e back-up generators were assumed to be diesel particulate matter (DPM). The particulate emissions for back-up generators were taken from Appendix B to Appendix J-2 (Environmental Air Quality Assessment) prepared by RWDI Air Inc., specifically, Appendices B12 and B13 to Appendix J-2.

(3) The particulate matter emissions from the underground workings (i.e., vent raises) were taken directly from Appendix B16 to Appendix J-2 (Environmental Air Quality Assessment) prepared by RWDI Air Inc. Although there was no specific breakdown provided with regards to the composition of the particulate emissions from the underground workings, a portion is likely to result from the tailpipe emissions from diesel fired equipment working underground. For the purposes of the health assessment, it was conservatively assumed that 50% of the particulate matter from the vent raises was diesel particulate matter (DPM).

**Table 3.5.3.1-9 Comparison of Project Particulate and Diesel Particulate Matter (DPM) Emissions, by Project Phase**

| Emission Category | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | TSP | $PM_{10}$ | $PM_{2.5}$ | TSP | $PM_{10}$ | $PM_{2.5}$ | TSP | $PM_{10}$ | $PM_{2.5}$ |
| Overall Project Emissions (1) | 631.420 | 173.920 | 27.275 | 569.030 | 184.360 | 56.628 | 622.040 | 168.540 | 23.290 |
| Diesel Particulate Matter (DPM) (2) | 8.686 | 8.686 | 8.686 | 17.836 | 17.836 | 17.836 | 6.806 | 6.806 | 6.806 |
| **DPM, as a Fraction of particulate emissions.** | **1.4%** | **5.0%** | **31.8%** | **3.1%** | **9.7%** | **31.5%** | **1.1%** | **4.0%** | **29.2%** |

NOTES:

(1) Based on the summary of emissions provided in Table 6.6.1.2-1 of the revised EIS (April 2018). It should be noted that an error was found in the version of emissions tables included as part of the revised EIS (April 2018). Revised copies of the emission summary tables from Section 6.6 of the revised EIS (April 2018) have been included as TMI_878-AE(2)-02_Attachment_1.

(2) As presented in Table 2 to this response.

**Table 3.5.3.1-10: Annual Exposure Point Concentrations (µg/m$^3$) of Particulate Matter [(1)] from the Project, by Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | TSP [(2)] | $PM_{10}$ [(3)] | $PM_{2.5}$ [(4)] | TSP [(2)] | $PM_{10}$ [(3)] | $PM_{2.5}$ [(4)] | TSP [(2)] | $PM_{10}$ [(3)] | $PM_{2.5}$ [(4)] |
| Operations Area [(5)] | 34.7 | 9.6 | 1.5 | 30.9 | 10.2 | 2.8 | 34.0 | 9.3 | 1.4 |
| Local Study Area | 1.6 | 0.5 | 0.1 | 1.8 | 0.6 | 0.2 | 1.6 | 0.5 | 0.1 |
| Village of Wabigoon | 0.3 | 0.1 | 0.0 | 0.3 | 0.1 | 0.0 | 0.3 | 0.1 | 0.0 |

NOTES:

(1) Data are compiled from Table 3.5.2.1-1 of the Goliath Gold Project Human Health and Ecologicgal Risk Assessment (September 2018).
(2) Includes background annual TSP of 14 µg/m$^3$.
(3) Includes background annual $PM_{10}$ of 6.4 µg/m$^3$.
(4) Includes background annual $PM_{2.5}$ of 4.3 µg/m$^3$.
(5) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

**Table 3.5.3.1-11: Calculated Annual Exposure Point Concentrations (µg/m$^3$) of Diesel Particulate Matter (DPM) from the Project, by Phase**

| Study Area | Site Preparation and Construction | | | Operations | | | Closure | | |
|---|---|---|---|---|---|---|---|---|---|
| | DPM using TSP Emissions | DPM using $PM_{10}$ Emissions | DPM using $PM_{2.5}$ Emissions | DPM using TSP Emissions | DPM using $PM_{10}$ Emissions | DPM using $PM_{2.5}$ Emissions | DPM using TSP Emissions | DPM using $PM_{10}$ Emissions | DPM using $PM_{2.5}$ Emissions |
| Operations Area (1) | 0.48 | 0.48 | 0.47 | 0.97 | 0.98 | 0.89 | 0.37 | 0.37 | 0.40 |
| Local Study Area | 0.02 | 0.02 | 0.02 | 0.06 | 0.05 | 0.06 | 0.02 | 0.02 | 0.02 |
| Village of Wabigoon | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

**Table 3.5.3.1-12: Annual Exposure Point Concentrations (µg/m$^3$) of Diesel Particulate Matter (DPM) from the Project**

| Study Area | Site Preparation and Construction | Operations | Closure |
|---|---|---|---|
| Operations Area (1) | 0.479 | 0.984 | 0.396 |
| Local Study Area | 0.023 | 0.063 | 0.019 |
| Village of Wabigoon | 0.005 | 0.010 | 0.004 |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

## Risk Characterization of DPM

Provincial regulatory agencies across Canada offer differing guidance on the risk characterization process. The risk characterization methods adopted by the Province of Ontario are accepted for the assessment of potential human health risks associated with the Goliath Gold Project. When characterizing the potential risks posed by exposure to non-carcinogenic substances, Ontario accepts a hazard quotient (HQ) of 0.2 (exposure ≤ 1/5 TRV). For non-carcinogens (i.e., threshold chemicals), potential risk is estimated by calculating the ratio of the estimated exposure to the TRV, which is referred to the hazard quotient (HQ) as follows:

$$Hazard\ Quotient\ (HQ) = \frac{Estimated\ Exposure}{TRV}$$

Therefore, the target HQ for the Base Case, Project Alone and Project Assessment Scenarios will be an HQ of 0.2. It is important to note that the magnitude of the HQ does not necessarily correspond to the magnitude of expected health effects, therefore the results of the risk characterization will be stated as potential risk, and negligible potential risk.

The estimated HQs resulting from exposure to DPM from the Project in each of the Study Areas are provided in Table 3.5.3.1-13. None of the estimated HQs exceeded Health Canada's target of 0.2. As such, no potential non-cancer risks are anticipated for all human receptors who may be exposed to DPM in air from the Project.

**Table 3.5.3.1-13: Calculated HQs based on California EPA TRV of 5 µg/m³**

| Study Area | Site Preparation and Construction | Operations | Closure |
|---|---|---|---|
| Operations Area (1) | $9.6\times10^{-2}$ | $2.0\times10^{-1}$ | $7.9\times10^{-2}$ |
| Local Study Area | $4.5\times10^{-3}$ | $1.3\times10^{-2}$ | $3.7\times10^{-3}$ |
| Village of Wabigoon | $9.5\times10^{-4}$ | $1.9\times10^{-3}$ | $7.5\times10^{-4}$ |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

For chemicals with carcinogenic endpoints (i.e., non-threshold chemicals), deemed to be carcinogenic, the estimated exposure (amortized as appropriate) is multiplied by the appropriate slope factor to derive a conservative estimate of the potential incremental lifetime cancer risk (ILCR) associated with that exposure. The ILCR is derived as:

$$Incremental\ Lifetime\ Cancer\ Risk\ (ILCR) = Exposure\ \times TRV$$

Health Canada indicates that cancer risks will be deemed to be "essentially negligible" where the estimated ILCR is ≤ 1 in 100,000 ($\leq 1 \times 10^{-5}$). For conservatism, the more conservative Ontario benchmark ILCR of 1 in 1 million ($1 \times 10^{-6}$) has been applied in the assessment of carcinogenic effects in the HHRA for the Goliath Gold Project. The U.S. EPA accepts ILCR targets between $1\times 10^{-4}$ and $1 \times 10^{-6}$.

The results indicate that potential cancer risks associated with DPM exposure may not be ruled as essentially negligible as a result of the Project based on the California EPA slope factor of $3\times10^{-4}$ $(\mu g/m^3)^{-1}$ as shown in Table 3.5.3.1-14. The estimated ILCR values marginally exceed what would be considered "essentially negligible" in Ontario for the LSA and the Village of Wabigoon. Estimated ILCR values for the Operations Area marginally exceed what would be considered "essentially negligible" by the US EPA, however no potential risks are anticipated within the Operations Area as an occupational health and safety plan is within good construction practices and would effectively mitigate any potential risk to a Project Worker. Potential cancer risks are anticipated to be essentially negligible for all human receptors exposed to DPM as a result of the Project. Further discussion to support this conclusion is provided in the paragraph below.

**Table 3.5.3.1-14: Calculated Cancer Risk Using California EPA Slope of $3\times10^{-4}$ $(\mu g/m^3)^{-1}$**

| Study Area | Site Preparation and Construction | Operations | Closure |
|---|---|---|---|
| Operations Area (1) | $1.4\times10^{-4}$ | $3.0\times10^{-4}$ | $1.2\times10^{-4}$ |
| Local Study Area | $6.8\times10^{-6}$ | $1.9\times10^{-5}$ | $5.6\times10^{-6}$ |
| Village of Wabigoon | $1.4\times10^{-6}$ | $2.9\times10^{-6}$ | $1.1\times10^{-6}$ |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

If the same relationship between DPM and Project $PM_{2.5}$ that was applied to the Project emissions (Table 3.5.3.1-9) was applied to the background levels of $PM_{2.5}$ (which results in the most conservative DPM EPC estimate), then the background DPM concentrations presented in Table 3.5.3.1-15 would result. While the numbers in Table 3.5.3.1-15 are consistent with what the California EPA indicates are typical background DPM concentrations (California reports a background DPM concentration of 1.5 $\mu g/m^3$), they are likely overly conservative estimates for the rural area in and around the Project that should have a much lower percentage of diesel particulate sources than in a highly urbanized are such as southern California.

**Table 3.5.3.1-15: Background Annual Exposure Point Concentrations ($\mu g/m^3$) of Diesel Particulate Matter (DPM)**

| Study Area | Site Preparation and Construction | Operations | Closure |
|---|---|---|---|
| Operations Area (1) | 1.37 | 1.35 | 1.26 |
| Local Study Area | 1.37 | 1.35 | 1.26 |
| Village of Wabigoon | 1.37 | 1.35 | 1.26 |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

If the potential carcinogenic risk is then calculated using only background DPM concentrations (see Table 3.5.3.1-15), the resulting ILCR estimates exceed the Health Canada ILCR target, by 2 orders of magnitude, and are higher than the risks associated with the Project. As stated above, the in the U.S. EPA accepts a target ILCR that is less conservative than Health Canada (U.S. EPA accepts $1\times 10^{-4}$ compared to

Health Canada which accepts $1\times 10^{-5} – 1\times 10^{-6}$). Therefore, in the United States the application of a slope factor for DPM as conservative as $3\times10^{-4}$ $(\mu g/m^3)^{-1}$ may not result in ILCR estimates at background that are greater than what may be considered "essentially negligible". Given that Health Canada requires that ILCR values be 1–2 times lower than the requirements of the U.S. EPA in order to rule out potential carcinogenic risks, obtaining "essentially negligible" as per the Health Canada definition may not be feasible with the application of the California EPA slope factor, even for background DPM levels in the environment. Certainly, the results presented herein illustrate the need for additional consideration prior to adopting values provided by other regulatory agencies within Canada.

**Table 3.5.3.1-16: Calculated Background Cancer Risk Using California EPA Slope of $3\times10^{-4}$**

| Study Area | Site Preparation and Construction | Operations | Closure |
|---|---|---|---|
| Operations Area (1) | $4.1\times10^{-4}$ | $4.1\times10^{-4}$ | $3.8\times10^{-4}$ |
| Local Study Area | $4.1\times10^{-4}$ | $4.1\times10^{-4}$ | $3.8\times10^{-4}$ |
| Village of Wabigoon | $4.1\times10^{-4}$ | $4.1\times10^{-4}$ | $3.8\times10^{-4}$ |

NOTES:

(1) There will be no public access to the Operations area throughout the active life of the Project (i.e., from the start of the Site Preparation and Construction phase through the end of Closure).

Given that there is a relatively large level of uncertainty associated with the application of the California EPA cancer slope factor in Canada, that Health Canada has not adopted a quantitative approach for other forms of particulate matter (i.e., $PM_{10}$ and $PM_{2.5}$ as discussed above), and that the non-cancer risk estimates for DPM were below levels anticipated to pose risk to human receptors, potential risks form DPM are determined to be essentially negligible at this time.

### 3.5.3.2 Inorganic Air Contaminants of Concern

The potential effects of the Project on human health, specifically via the inhalation of inorganic COCs (specifically metals) associated with the inhalation of suspended particular matter ($PM_{10}$, $PM_{2.5}$ and TSP) are assessed herein. Total suspended particulate (TSP) was selected as the most conservative particulate matter group to be used in determining possible chemical exposures to airborne COCs. As illustrated in Figure 3.5.3.2-1, the use of the TSP concentration will conservatively include both the $PM_{10}$ and $PM_{2.5}$ fractions of the airborne particulate matter associated with the Project. Although Health Canada recommends the use of $PM_{10}$ in their $DQRA_{CHEM}$ guidance document, the $PM_{10}$ emissions from the Project represent 29% of the TSP emissions (averaged over the site preparations and construction, Operations and Closure phases). The $PM_{2.5}$ fraction of the airborne particulate matter could represent the finer airborne particles known to pose a greater risk to human health, as they can be inhaled deeply into the lungs, are chemically reactive, and have complex characteristics. However, the use of $PM_{2.5}$ emissions from the Project represent 6% of the TSP emissions (averaged over the site preparations and construction, Operations and Closure phases). Therefore, while scientific logic may be used in support of the use of either $PM_{10}$ or $PM_{2.5}$, for determining exposures for use in the HHERA, the choice to use TSP for calculating exposures for the HHERA represents the most conservative approach, capturing 100% of the airborne particulate emissions and thus 100% of the possible exposure to airborne metals.

Exposure point concentrations of metals sorbed to TSP in air were modelled based on multiple emission sources specific to each Project phase and UCLM concentrations of metals in baseline soils, waste rock or ore/tailings assay results as described in Appendix A. Ore/tailings are not considered an operable exposure media for direct contact, however the air modelling was done assuming a small tailings beach and that a small percentage of that may be suspended as fugitive dust. The EPC for each chemical parameter was compared to its respective health-based MECP Ambient Air Quality Criteria and exceedances were considered as air COC's requiring further assessment as part of the HHERA.

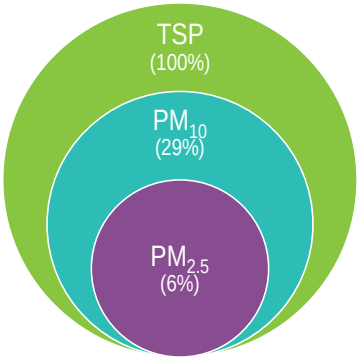



**Figure 3.5.3.2-1: Distribution of Airborne Particle Sizes**

The EPCs screening for each of the three Study Areas are provided for each of the following quantified Assessment Scenarios:

- Base Case Assessment Scenario (Table 3.5.3.2-1);
- Project Alone Assessment Scenario (Table 3.5.3.2-2); and
- Project Assessment Scenario (Table 3.5.3.2-3).

**Table 3.5.3.2-1: Exposure Point Concentration of Metals in Air (Base Case Assessment Scenario)**

| Compound | Screening Criteria (µg/m³) | Operations Area | Local Study Area | Village of Wabigoon |
|---|---|---|---|---|
| Antimony (Sb) | 25 | 0.00002 | 0.00002 | 0.00002 |
| Arsenic (As) | 0.3 | 0.00011 | 0.00011 | 0.00011 |
| Barium (Ba) | 10 | 0.00367 | 0.00367 | 0.00367 |
| Beryllium (Be) | 0.01 | 0.00002 | 0.00002 | 0.00002 |
| Bismuth (Bi) | — | 0.00002 | 0.00002 | 0.00002 |
| Boron (B) | 120 | 0.00014 | 0.00014 | 0.00014 |
| Cadmium (Cd) | 0.025 | 0.00001 | 0.00001 | 0.00001 |
| Chromium (Cr) | 1 | 0.00180 | 0.00180 | 0.00180 |
| Cobalt (Co) | 0.1 | 0.00037 | 0.00037 | 0.00037 |
| Copper (Cu) | 50 | 0.00081 | 0.00081 | 0.00081 |
| Iron (Fe) | 4 | 0.88612 | 0.88612 | 0.88612 |
| Lead (Pb) | 0.5 | 0.00031 | 0.00031 | 0.00031 |
| Lithium (Li) | 20 | 0.00075 | 0.00075 | 0.00075 |
| Manganese (Mn) | 0.4 | 0.01813 | 0.01813 | 0.01813 |
| Mercury (Hg) | 2 | 0.000001 | 0.000001 | 0.000001 |
| Molybdenum (Mo) | 120 | 0.00002 | 0.00002 | 0.00002 |
| Nickel (Ni) | 0.04 | 0.00102 | 0.00102 | 0.00102 |
| Phosphorus (P) | — | 0.01823 | 0.01823 | 0.01823 |
| Selenium (Se) | 10 | 0.00002 | 0.00002 | 0.00002 |
| Silver (Ag) | 1 | 0.000004 | 0.000004 | 0.000004 |
| Strontium (Sr) | 120 | 0.00136 | 0.00136 | 0.00136 |
| Thallium (Tl) | — | 0.00001 | 0.00001 | 0.00001 |
| Tin (Sn) | 10 | 0.00008 | 0.00008 | 0.00008 |
| Titanium (Ti) | 120 | 0.05151 | 0.05151 | 0.05151 |
| Uranium (U) | 0.06 | 0.00002 | 0.00002 | 0.00002 |
| Vanadium (V) | 2 | 0.00184 | 0.00184 | 0.00184 |
| Zinc (Zn) | 120 | 0.00222 | 0.00222 | 0.00222 |

NOTES:

| | |
|---|---|
| Units | All units in µg/m³ |
| **1** | Sorption of metals modeled onto TSP as it represents the most conservative approach to risk assessment and considered 100% of the particulate matter. ($PM_{2.5}$ would only account for 6% and $PM_{10}$ only 29%) |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

**Table 3.5.3.2-2: Exposure Point Concentration of Metals in Air (Project Alone Assessment Scenario)**

| Compound | Screening Criteria (µg/m³) | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon |
| Antimony (Sb) | 25 | 0.000632 | 0.000046 | 0.000011 | 0.001359 | 0.000087 | 0.000017 | 0.000618 | 0.000046 | 0.000010 |
| Arsenic (As) | 0.3 | 0.002642 | 0.000193 | 0.000045 | 0.004538 | 0.000291 | 0.000056 | 0.002585 | 0.000192 | 0.000044 |
| Barium (Ba) | 10 | 0.012632 | 0.000922 | 0.000215 | 0.020859 | 0.001339 | 0.000257 | 0.012372 | 0.000917 | 0.000210 |
| Beryllium (Be) | 0.01 | 0.000044 | 0.000003 | 0.000001 | 0.000067 | 0.000004 | 0.000001 | 0.000043 | 0.000003 | 0.000001 |
| Bismuth (Bi) | — | 0.000029 | 0.000002 | 0.000000 | 0.000219 | 0.000014 | 0.000003 | 0.000029 | 0.000002 | 0.000000 |
| Boron (B) | 120 | 0.004753 | 0.000347 | 0.000081 | 0.005506 | 0.000353 | 0.000068 | 0.004649 | 0.000344 | 0.000079 |
| Cadmium (Cd) | 0.025 | 0.000153 | 0.000011 | 0.000003 | 0.000345 | 0.000022 | 0.000004 | 0.000150 | 0.000011 | 0.000003 |
| Chromium (Cr) | 1 | 0.006770 | 0.000494 | 0.000115 | 0.009629 | 0.000618 | 0.000118 | 0.006630 | 0.000491 | 0.000113 |
| Cobalt (Co) | 0.1 | 0.016099 | 0.001175 | 0.000274 | 0.018882 | 0.001212 | 0.000232 | 0.015748 | 0.001167 | 0.000267 |
| Copper (Cu) | 50 | 0.005649 | 0.000412 | 0.000096 | 0.009654 | 0.000620 | 0.000119 | 0.005529 | 0.000410 | 0.000094 |
| Iron (Fe) | 4 | 3.120731 | 0.227684 | 0.053034 | 3.117949 | 0.200121 | 0.038351 | 3.056477 | 0.226428 | 0.051889 |
| Lead (Pb) | 0.5 | 0.019372 | 0.001413 | 0.000329 | 0.046584 | 0.002990 | 0.000573 | 0.018949 | 0.001404 | 0.000322 |
| Lithium (Li) | 20 | 0.001939 | 0.000141 | 0.000033 | 0.002136 | 0.000137 | 0.000026 | 0.001900 | 0.000141 | 0.000032 |
| Manganese (Mn) | 0.4 | 0.063974 | 0.004667 | 0.001087 | 0.072306 | 0.004641 | 0.000889 | 0.062657 | 0.004642 | 0.001064 |
| Mercury (Hg) | 2 | 0.000037 | 0.000003 | 0.000001 | 0.000043 | 0.000003 | 0.000001 | 0.000036 | 0.000003 | 0.000001 |
| Molybdenum (Mo) | 120 | 0.000135 | 0.000010 | 0.000002 | 0.000314 | 0.000020 | 0.000004 | 0.000132 | 0.000010 | 0.000002 |
| Nickel (Ni) | 0.04 | 0.003329 | 0.000243 | 0.000057 | 0.003960 | 0.000254 | 0.000049 | 0.003261 | 0.000242 | 0.000055 |
| Phosphorus (P) | — | 0.077790 | 0.005675 | 0.001322 | 0.088495 | 0.005680 | 0.001088 | 0.076171 | 0.005643 | 0.001293 |
| Selenium (Se) | 10 | 0.000009 | 0.000001 | 0.000000 | 0.000210 | 0.000014 | 0.000003 | 0.000009 | 0.000001 | 0.000000 |
| Silver (Ag) | 1 | 0.000171 | 0.000012 | 0.000003 | 0.000599 | 0.000038 | 0.000007 | 0.000167 | 0.000012 | 0.000003 |
| Strontium (Sr) | 120 | 0.003127 | 0.000228 | 0.000053 | 0.004672 | 0.000300 | 0.000057 | 0.003065 | 0.000227 | 0.000052 |
| Thallium (Tl) | — | 0.000044 | 0.000003 | 0.000001 | 0.000272 | 0.000017 | 0.000003 | 0.000043 | 0.000003 | 0.000001 |
| Tin (Sn) | 10 | 0.000159 | 0.000012 | 0.000003 | 0.001887 | 0.000121 | 0.000023 | 0.000156 | 0.000012 | 0.000003 |
| Titanium (Ti) | 120 | 0.126959 | 0.009263 | 0.002158 | 0.143668 | 0.009221 | 0.001767 | 0.124417 | 0.009217 | 0.002112 |
| Uranium (U) | 0.06 | 0.000133 | 0.000010 | 0.000002 | 0.000328 | 0.000021 | 0.000004 | 0.000130 | 0.000010 | 0.000002 |
| Vanadium (V) | 2 | 0.003709 | 0.000271 | 0.000063 | 0.003893 | 0.000250 | 0.000048 | 0.003636 | 0.000269 | 0.000062 |
| Zinc (Zn) | 120 | 0.060092 | 0.004384 | 0.001021 | 0.119230 | 0.007653 | 0.001467 | 0.058786 | 0.004355 | 0.000998 |

NOTES:

Units: All units in µg/m³

**BOLD & SHADED**: Concentration exceeds criteria, parameter carried forward as COC in HHERA

**BOLD & SHADED**: Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA.

**Table 3.5.3.2-3: Exposure Point Concentration of Metals in Air (Project Assessment Scenario)**

| Compound | Screening Criteria (µg/m³) | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon | Operations Area | Local Study Area | Village of Wabigoon |
| Antimony (Sb) | 25 | 0.000771 | 0.000185 | 0.000150 | 0.001616 | 0.000345 | 0.000274 | 0.000757 | 0.000184 | 0.000149 |
| Arsenic (As) | 0.3 | 0.003223 | 0.000773 | 0.000625 | 0.005398 | 0.001151 | 0.000915 | 0.003165 | 0.000771 | 0.000624 |
| Barium (Ba) | 10 | 0.015407 | 0.003697 | 0.002990 | 0.024809 | 0.005289 | 0.004207 | 0.015148 | 0.003692 | 0.002986 |
| Beryllium (Be) | 0.01 | 0.000053 | 0.000013 | 0.000010 | 0.000080 | 0.000017 | 0.000014 | 0.000052 | 0.000013 | 0.000010 |
| Bismuth (Bi) | — | 0.000035 | 0.000009 | 0.000007 | 0.000260 | 0.000056 | 0.000044 | 0.000035 | 0.000009 | 0.000007 |
| Boron (B) | 120 | 0.005797 | 0.001391 | 0.001125 | 0.006549 | 0.001396 | 0.001110 | 0.005692 | 0.001387 | 0.001122 |
| Cadmium (Cd) | 0.025 | 0.000187 | 0.000045 | 0.000036 | 0.000411 | 0.000088 | 0.000070 | 0.000184 | 0.000045 | 0.000036 |
| Chromium (Cr) | 1 | 0.008258 | 0.001981 | 0.001602 | 0.011453 | 0.002442 | 0.001942 | 0.008118 | 0.001979 | 0.001600 |
| Cobalt (Co) | 0.1 | 0.019636 | 0.004711 | 0.003810 | 0.022458 | 0.004788 | 0.003808 | 0.019281 | 0.004700 | 0.003801 |
| Copper (Cu) | 50 | 0.006890 | 0.001653 | 0.001337 | 0.011482 | 0.002448 | 0.001947 | 0.006770 | 0.001650 | 0.001334 |
| Iron (Fe) | 4 | 3.806269 | 0.913221 | 0.738571 | 3.708404 | 0.790577 | 0.628806 | 3.742225 | 0.912176 | 0.737637 |
| Lead (Pb) | 0.5 | 0.023628 | 0.005669 | 0.004585 | 0.055406 | 0.011812 | 0.009395 | 0.023200 | 0.005655 | 0.004573 |
| Lithium (Li) | 20 | 0.002365 | 0.000567 | 0.000459 | 0.002541 | 0.000542 | 0.000431 | 0.002326 | 0.000567 | 0.000459 |
| Manganese (Mn) | 0.4 | 0.078027 | 0.018721 | 0.015140 | 0.085998 | 0.018334 | 0.014582 | 0.076714 | 0.018699 | 0.015121 |
| Mercury (Hg) | 2 | 0.000045 | 0.000011 | 0.000009 | 0.000051 | 0.000011 | 0.000009 | 0.000044 | 0.000011 | 0.000009 |
| Molybdenum (Mo) | 120 | 0.000165 | 0.000039 | 0.000032 | 0.000373 | 0.000080 | 0.000063 | 0.000162 | 0.000039 | 0.000032 |
| Nickel (Ni) | 0.04 | 0.004061 | 0.000974 | 0.000788 | 0.004710 | 0.001004 | 0.000799 | 0.003993 | 0.000973 | 0.000787 |
| Phosphorus (P) | — | 0.094879 | 0.022764 | 0.018410 | 0.105253 | 0.022438 | 0.017847 | 0.093260 | 0.022732 | 0.018383 |
| Selenium (Se) | 10 | 0.000011 | 0.000003 | 0.000002 | 0.000250 | 0.000053 | 0.000042 | 0.000011 | 0.000003 | 0.000002 |
| Silver (Ag) | 1 | 0.000209 | 0.000050 | 0.000041 | 0.000712 | 0.000152 | 0.000121 | 0.000205 | 0.000050 | 0.000040 |
| Strontium (Sr) | 120 | 0.003814 | 0.000915 | 0.000740 | 0.005556 | 0.001185 | 0.000942 | 0.003753 | 0.000915 | 0.000740 |
| Thallium (Tl) | — | 0.000054 | 0.000013 | 0.000010 | 0.000323 | 0.000069 | 0.000055 | 0.000053 | 0.000013 | 0.000010 |
| Tin (Sn) | 10 | 0.000193 | 0.000046 | 0.000038 | 0.002244 | 0.000478 | 0.000380 | 0.000190 | 0.000046 | 0.000038 |
| Titanium (Ti) | 120 | 0.154848 | 0.037152 | 0.030047 | 0.170875 | 0.036428 | 0.028974 | 0.152331 | 0.037131 | 0.030026 |
| Uranium (U) | 0.06 | 0.000162 | 0.000039 | 0.000032 | 0.000390 | 0.000083 | 0.000066 | 0.000160 | 0.000039 | 0.000031 |
| Vanadium (V) | 2 | 0.004523 | 0.001085 | 0.000878 | 0.004631 | 0.000987 | 0.000785 | 0.004452 | 0.001085 | 0.000877 |
| Zinc (Zn) | 120 | 0.073293 | 0.017585 | 0.014222 | 0.141809 | 0.030232 | 0.024046 | 0.071975 | 0.017544 | 0.014187 |

NOTES:

Units: All units in µg/m³

**BOLD & SHADED**: Concentration exceeds criteria, parameter carried forward as COC in HHERA

**BOLD & SHADED**: Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA.

As shown in Tables 3.5.3.2-1, 3.5.3.2-2, and 3.5.3.2-3, none of the modelled concentrations of metals in air exceeded their respective health-based screening criteria. However, the following chemicals did not have a MECP air screening criteria available:

- Bismuth,
- Phosphorus, and
- Thallium

Bismuth is considered to be minimally toxic to human and ecological receptors and pose a negligible amount of potential risk in the environment. As such, no toxicity reference values are available for use in a human or ecological risk assessment of this chemical, and subsequently no risk-based screening criteria have been derived. Based on the current state of science, bismuth is not carried forward as a COC in the HHERA. Should new toxicity information emerge for bismuth to allow for its quantitative assessment of potential risk, a follow-up HHERA should be conducted as per Section 13 of the revised EIS (April 2018).

A risk-based air guideline or standard is not currently available from any regulatory body for thallium. There are however, soil quality guidelines available. Health Canada states in their PQRA guidance that often, intake due to the inhalation of fugitive dust will be insignificant relative to the direct ingestion of soil and water, and to dermal contact. This chemical will be assessed via the direct dermal contact and incidental ingestion pathways only (if required) for the HHERA.

Phosphorus is an essential macronutrient for plant growth and is ubiquitous in the environment. However, at elevated levels phosphorus can lead to the proliferation of algae blooms and the eutrophication of waterways. The primary concern of phosphorus is eutrophication rather than chemical specific toxicity and as such no risk-based soil standards or guidelines are available. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

Based on the screening process, no air COCs are identified for any of the Assessment Scenarios, or Project phases at any of the three Study Areas.

The concentrations of metals in dust deposited as a result of the Project are considered as part of the soil COC selection described below.

### 3.5.3.3 Soil

Overburden soil was sampled at 25 shallow sampling (<1.7 mbgs) locations and analysed for the chemical concentrations of select metals. The locations of soil sampling were discussed in Section 5 of the revised EIS (April 2018). The UCLM concentration was calculated and used as the EPC for the Base Case Assessment Scenario for all three Study Areas as shown in Table 3.5.3.3-1.

The air modelling completed to support the health assessment (see Section 3.5.3.2) included modelling of dustfall (airborne particles that are deposited on the surrounding landscape) for each of the Site Preparation and Construction, Operations, and Closure phases of the Project for each of the three Study Areas There are no emissions associated with the Post-Closure phase of the Project. The maximum annual UCLM dustfall rate of the five-year period was selected for each of the three Study Areas and three Project phases for which there are air emissions.

Changes in soil metal concentrations as a result of metals deposited in dustfall are dependent on the concentration calculated in the soils at the end of the phase before plus the rate of new deposition from dustfall for the current phase.

The measured soil EPCs and modelled soil EPCs were compared to the CCME soil quality guidelines for agricultural land use, or the MECP Table 1 Full-Depth Background Site Condition Standards for Agricultural land use. In the absence of a risk-based screening criteria the Ontario Typical Range ($OTR_{98}$) values were employed for screening purposes. The OTR values were published by the Ontario Ministry of Environment and Energy in 1993. The $OTR_{98}$, which is the $97.5^{th}$ percentile of the distribution of a database of surface soils in Ontario that are not contaminated by point sources is used as the basis of the background soil standards. In the absence of Canadian or Ontario specific criteria, the United State Environmental Protection Agency (US EPA) Risk-Based Regional Screening Levels were selected (toddler, hazard quotient =0.2, target risk= $10^{-6}$)

The soil screening results for the three Study Areas (i.e., Operations Area, HHERA LSA, and the Village of Wabigoon) are provide in the following tables:

- Base Case Assessment Scenario (Table 3.5.3.3-1);
- Project Alone Assessment Scenario (Table 3.5.3.3-2); and
- Project Assessment Scenario (Table 3.5.3.3-3).

**Table 3.5.3.3-1: Exposure Point Concentration of Metals in Soil (Operations Area, Study Area No. 1)**

| Parameter and Symbol | CCME Soil Guidelines | MECP Table 1 Site Condition Standards | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Baseline Soil Concentration | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Antimony (Sb) | 20 | 1 | 0.500 | 0.005 | 0.056 | 0.062 | 0.062 | 0.505 | 0.556 | 0.562 | 0.562 |
| Arsenic (As) | 12 | 11 | 3.364 | 0.022 | 0.193 | 0.215 | 0.215 | 3.386 | 3.557 | 3.578 | 3.578 |
| Barium (Ba) | 750 | 210 | 111.186 | 0.106 | 0.892 | 0.996 | 0.996 | 111.292 | 112.078 | 112.182 | 112.182 |
| Beryllium (Be) | 4 | 2.5 | 0.526 | 0.000 | 0.003 | 0.003 | 0.003 | 0.526 | 0.529 | 0.529 | 0.529 |
| Bismuth (Bi) | — | — | 0.500 | 0.000 | 0.008 | 0.009 | 0.009 | 0.500 | 0.508 | 0.509 | 0.509 |
| Boron (B) total | — | 36 | 4.093 | 0.040 | 0.247 | 0.286 | 0.286 | 4.133 | 4.340 | 4.379 | 4.379 |
| Cadmium (Cd) | 1.4 | 1 | 0.374 | 0.001 | 0.014 | 0.016 | 0.016 | 0.375 | 0.388 | 0.389 | 0.389 |
| Chromium (Cr) | 64 | 67 | 54.502 | 0.057 | 0.420 | 0.475 | 0.475 | 54.559 | 54.921 | 54.977 | 54.977 |
| Cobalt (Co) | 40 | 19 | 11.353 | 0.135 | 0.846 | 0.979 | 0.979 | 11.489 | 12.200 | 12.332 | 12.332 |
| Copper (Cu) | 63 | 62 | 24.630 | 0.047 | 0.411 | 0.457 | 0.457 | 24.677 | 25.041 | 25.087 | 25.087 |
| Iron (Fe) | — | 34,000[a] | 26852.014 | 26.212 | 143.647 | 169.292 | 169.292 | 26878.225 | 26995.661 | 27021.306 | 27021.306 |
| Lead (Pb) | 70 | 45 | 9.325 | 0.163 | 1.917 | 2.076 | 2.076 | 9.488 | 11.243 | 11.402 | 11.402 |
| Lithium (Li) | — | 31.3[b] | 22.737 | 0.016 | 0.097 | 0.113 | 0.113 | 22.753 | 22.833 | 22.849 | 22.849 |
| Manganese (Mn) | — | 1,400[a] | 549.400 | 0.537 | 3.261 | 3.786 | 3.786 | 549.938 | 552.661 | 553.187 | 553.187 |
| Mercury (Hg) | 6.6 | 0.16 | 0.039 | 0.000 | 0.002 | 0.002 | 0.002 | 0.040 | 0.041 | 0.041 | 0.041 |
| Molybdenum (Mo) | 5 | 2 | 0.576 | 0.001 | 0.013 | 0.014 | 0.014 | 0.577 | 0.589 | 0.590 | 0.590 |
| Nickel (Ni) | 45 | 37 | 30.915 | 0.028 | 0.177 | 0.204 | 0.204 | 30.943 | 31.092 | 31.119 | 31.119 |
| Phosphorus (P) | — | — | 552.340 | 0.653 | 3.986 | 4.626 | 4.626 | 552.994 | 556.327 | 556.966 | 556.966 |
| Selenium (Se) | 1 | 1.2 | 0.500 | 0.000 | 0.008 | 0.008 | 0.008 | 0.500 | 0.508 | 0.508 | 0.508 |
| Silver (Ag) | 20 | 0.5 | 0.117 | 0.001 | 0.024 | 0.025 | 0.025 | 0.119 | 0.141 | 0.143 | 0.143 |
| Strontium (Sr) | — | 77[a] | 41.332 | 0.026 | 0.202 | 0.228 | 0.228 | 41.358 | 41.534 | 41.560 | 41.560 |
| Thallium (Tl) | 1 | 1 | 0.250 | 0.000 | 0.011 | 0.011 | 0.011 | 0.250 | 0.261 | 0.261 | 0.261 |
| Tin (Sn) | 5 | — | 2.500 | 0.001 | 0.072 | 0.074 | 0.074 | 2.501 | 2.572 | 2.574 | 2.574 |
| Titanium (Ti) | — | 4,700[a] | 1560.904 | 1.066 | 6.478 | 7.521 | 7.521 | 1561.971 | 1567.382 | 1568.426 | 1568.426 |
| Uranium (U) | 23 | 1.9 | 0.500 | 0.001 | 0.013 | 0.015 | 0.015 | 0.501 | 0.513 | 0.515 | 0.515 |
| Vanadium (V) | 130 | 86 | 55.635 | 0.031 | 0.178 | 0.208 | 0.208 | 55.666 | 55.812 | 55.843 | 55.843 |
| Zinc (Zn) | 200 | 290 | 67.305 | 0.505 | 4.995 | 5.489 | 5.489 | 67.810 | 72.301 | 72.794 | 72.794 |

NOTES:

| | |
|---|---|
| Units | All units in µg/g |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

**Table 3.5.3.3-2: Exposure Point Concentration of Metals in Soil (HHERA LSA, Study Area No. 2)**

| Parameter and Symbol | CCME Soil Guidelines | MECP Table 1 Site Condition Standards | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Baseline Soil Concentration | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Antimony (Sb) | 20 | 1 | 0.5000 | 0.0002 | 0.0030 | 0.0032 | 0.0032 | 0.5002 | 0.5030 | 0.5032 | 0.5032 |
| Arsenic (As) | 12 | 11 | 3.3636 | 0.0009 | 0.0102 | 0.0111 | 0.0111 | 3.3645 | 3.3737 | 3.3746 | 3.3746 |
| Barium (Ba) | 750 | 210 | 111.1861 | 0.0043 | 0.0470 | 0.0513 | 0.0513 | 111.1904 | 111.2331 | 111.2374 | 111.2374 |
| Beryllium (Be) | 4 | 2.5 | 0.5260 | 0.0000 | 0.0002 | 0.0002 | 0.0002 | 0.5260 | 0.5261 | 0.5261 | 0.5261 |
| Bismuth (Bi) | — | — | 0.5000 | 0.0000 | 0.0005 | 0.0005 | 0.0005 | 0.5000 | 0.5005 | 0.5005 | 0.5005 |
| Boron (B) (total) | — | 36 | 4.0929 | 0.0016 | 0.0129 | 0.0145 | 0.0145 | 4.0945 | 4.1058 | 4.1074 | 4.1074 |
| Cadmium (Cd) | 1.4 | 1 | 0.3736 | 0.0001 | 0.0008 | 0.0008 | 0.0008 | 0.3737 | 0.3744 | 0.3744 | 0.3744 |
| Chromium (Cr) | 64 | 67 | 54.5019 | 0.0023 | 0.0220 | 0.0243 | 0.0243 | 54.5042 | 54.5238 | 54.5262 | 54.5262 |
| Cobalt (Co) | 40 | 19 | 11.3535 | 0.0055 | 0.0441 | 0.0496 | 0.0496 | 11.3590 | 11.3976 | 11.4031 | 11.4031 |
| Copper (Cu) | 63 | 62 | 24.6297 | 0.0019 | 0.0217 | 0.0236 | 0.0236 | 24.6316 | 24.6513 | 24.6533 | 24.6533 |
| Iron (Fe) | — | 34,000[a] | 26852.0135 | 1.0655 | 7.4405 | 8.5098 | 8.5098 | 26853.0790 | 26859.4540 | 26860.5233 | 26860.5233 |
| Lead (Pb) | 70 | 45 | 9.3255 | 0.0066 | 0.1019 | 0.1085 | 0.1085 | 9.3321 | 9.4273 | 9.4340 | 9.4340 |
| Lithium (Li) | — | 31.3[b] | 22.7366 | 0.0007 | 0.0050 | 0.0057 | 0.0057 | 22.7373 | 22.7416 | 22.7423 | 22.7423 |
| Manganese (Mn) | — | 1,400[a] | 549.4003 | 0.0218 | 0.1697 | 0.1916 | 0.1916 | 549.4222 | 549.5700 | 549.5919 | 549.5919 |
| Mercury (Hg) | 6.6 | 0.16 | 0.0392 | 0.0000 | 0.0001 | 0.0001 | 0.0001 | 0.0392 | 0.0393 | 0.0393 | 0.0393 |
| Molybdenum (Mo) | 5 | 2 | 0.5759 | 0.0000 | 0.0007 | 0.0007 | 0.0007 | 0.5760 | 0.5766 | 0.5766 | 0.5766 |
| Nickel (Ni) | 45 | 37 | 30.9147 | 0.0011 | 0.0092 | 0.0104 | 0.0104 | 30.9159 | 30.9239 | 30.9251 | 30.9251 |
| Phosphorus (P) | — | — | 552.3403 | 0.0266 | 0.2075 | 0.2341 | 0.2341 | 552.3669 | 552.5478 | 552.5745 | 552.5745 |
| Selenium (Se) | 1 | 1.2 | 0.5000 | 0.0000 | 0.0004 | 0.0004 | 0.0004 | 0.5000 | 0.5004 | 0.5004 | 0.5004 |
| Silver (Ag) | 20 | 0.5 | 0.1173 | 0.0001 | 0.0013 | 0.0013 | 0.0013 | 0.1174 | 0.1186 | 0.1187 | 0.1187 |
| Strontium (Sr) | — | 77[a] | 41.3320 | 0.0011 | 0.0106 | 0.0117 | 0.0117 | 41.3330 | 41.3426 | 41.3437 | 41.3437 |
| Thallium (Tl) | 1 | 1 | 0.2500 | 0.0000 | 0.0006 | 0.0006 | 0.0006 | 0.2500 | 0.2506 | 0.2506 | 0.2506 |
| Tin (Sn) | 5 | — | 2.5000 | 0.0001 | 0.0039 | 0.0040 | 0.0040 | 2.5001 | 2.5039 | 2.5040 | 2.5040 |
| Titanium (Ti) | — | 4,700[a] | 1560.9044 | 0.0433 | 0.3371 | 0.3806 | 0.3806 | 1560.9477 | 1561.2415 | 1561.2850 | 1561.2850 |
| Uranium (U) | 23 | 1.9 | 0.5000 | 0.0000 | 0.0007 | 0.0008 | 0.0008 | 0.5000 | 0.5007 | 0.5008 | 0.5008 |
| Vanadium (V) | 130 | 86 | 55.6347 | 0.0013 | 0.0092 | 0.0105 | 0.0105 | 55.6359 | 55.6439 | 55.6452 | 55.6452 |
| Zinc (Zn) | 200 | 290 | 67.3054 | 0.0205 | 0.2643 | 0.2849 | 0.2849 | 67.3259 | 67.5697 | 67.5902 | 67.5902 |

NOTES:

| | |
|---|---|
| Units | All units in µg/g |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

**Table 3.5.3.3-3: Exposure Point Concentration of Metals in Soil (Village of Wabigoon, Study Area No. 3)**

| Parameter and Symbol | CCME Soil Guidelines | MECP Table 1 Site Condition Standards | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Baseline Soil Concentration | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Antimony (Sb) | 20 | 1 | 0.50000 | 0.00004 | 0.00038 | 0.00042 | 0.00042 | 0.50004 | 0.50038 | 0.50042 | 0.50042 |
| Arsenic (As) | 12 | 11 | 3.36355 | 0.00017 | 0.00131 | 0.00147 | 0.00147 | 3.36372 | 3.36486 | 3.36502 | 3.36502 |
| Barium (Ba) | 750 | 210 | 111.18612 | 0.00080 | 0.00605 | 0.00682 | 0.00682 | 111.18692 | 111.19217 | 111.19294 | 111.19294 |
| Beryllium (Be) | 4 | 2.5 | 0.52597 | 0.00000 | 0.00002 | 0.00002 | 0.00002 | 0.52597 | 0.52598 | 0.52599 | 0.52599 |
| Bismuth (Bi) | — | — | 0.50000 | 0.00000 | 0.00006 | 0.00006 | 0.00006 | 0.50000 | 0.50006 | 0.50006 | 0.50006 |
| Boron (B) total | — | 36 | 4.09290 | 0.00030 | 0.00169 | 0.00198 | 0.00198 | 4.09320 | 4.09459 | 4.09488 | 4.09488 |
| Cadmium (Cd) | 1.4 | 1 | 0.37362 | 0.00001 | 0.00010 | 0.00011 | 0.00011 | 0.37363 | 0.37371 | 0.37372 | 0.37372 |
| Chromium (Cr) | 64 | 67 | 54.50185 | 0.00043 | 0.00285 | 0.00327 | 0.00327 | 54.50228 | 54.50470 | 54.50512 | 54.50512 |
| Cobalt (Co) | 40 | 19 | 11.35347 | 0.00102 | 0.00577 | 0.00676 | 0.00676 | 11.35449 | 11.35924 | 11.36023 | 11.36023 |
| Copper (Cu) | 63 | 62 | 24.62967 | 0.00036 | 0.00279 | 0.00313 | 0.00313 | 24.63002 | 24.63245 | 24.63280 | 24.63280 |
| Iron (Fe) | — | 34,000[a] | 26852.01355 | 0.19739 | 0.98213 | 1.17388 | 1.17388 | 26852.21094 | 26852.99568 | 26853.18742 | 26853.18742 |
| Lead (Pb) | 70 | 45 | 9.32548 | 0.00123 | 0.01295 | 0.01414 | 0.01414 | 9.32671 | 9.33843 | 9.33962 | 9.33962 |
| Lithium (Li) | — | 31.3[b] | 22.73662 | 0.00012 | 0.00066 | 0.00078 | 0.00078 | 22.73674 | 22.73728 | 22.73740 | 22.73740 |
| Manganese (Mn) | — | 1,400[a] | 549.40033 | 0.00405 | 0.02224 | 0.02618 | 0.02618 | 549.40438 | 549.42258 | 549.42651 | 549.42651 |
| Mercury (Hg) | 6.6 | 0.16 | 0.03923 | 0.00000 | 0.00001 | 0.00002 | 0.00002 | 0.03923 | 0.03924 | 0.03925 | 0.03925 |
| Molybdenum (Mo) | 5 | 2 | 0.57590 | 0.00001 | 0.00009 | 0.00010 | 0.00010 | 0.57591 | 0.57599 | 0.57600 | 0.57600 |
| Nickel (Ni) | 45 | 37 | 30.91472 | 0.00021 | 0.00121 | 0.00141 | 0.00141 | 30.91493 | 30.91592 | 30.91613 | 30.91613 |
| Phosphorus (P) | — | — | 552.34031 | 0.00492 | 0.02719 | 0.03197 | 0.03197 | 552.34523 | 552.36750 | 552.37228 | 552.37228 |
| Selenium (Se) | 1 | 1.2 | 0.50000 | 0.00000 | 0.00005 | 0.00005 | 0.00005 | 0.50000 | 0.50005 | 0.50005 | 0.50005 |
| Silver (Ag) | 20 | 0.5 | 0.11735 | 0.00001 | 0.00016 | 0.00017 | 0.00017 | 0.11736 | 0.11751 | 0.11752 | 0.11752 |
| Strontium (Sr) | — | 77[a] | 41.33198 | 0.00020 | 0.00137 | 0.00157 | 0.00157 | 41.33218 | 41.33335 | 41.33354 | 41.33354 |
| Thallium (Tl) | 1 | 1 | 0.25000 | 0.00000 | 0.00007 | 0.00007 | 0.00007 | 0.25000 | 0.25007 | 0.25007 | 0.25007 |
| Tin (Sn) | 5 | — | 2.50000 | 0.00001 | 0.00048 | 0.00049 | 0.00049 | 2.50001 | 2.50048 | 2.50049 | 2.50049 |
| Titanium (Ti) | — | 4,700[a] | 1560.90440 | 0.00803 | 0.04419 | 0.05199 | 0.05199 | 1560.91243 | 1560.94859 | 1560.95640 | 1560.95640 |
| Uranium (U) | 23 | 1.9 | 0.50000 | 0.00001 | 0.00009 | 0.00010 | 0.00010 | 0.50001 | 0.50009 | 0.50010 | 0.50010 |
| Vanadium (V) | 130 | 86 | 55.63467 | 0.00023 | 0.00121 | 0.00144 | 0.00144 | 55.63490 | 55.63588 | 55.63611 | 55.63611 |
| Zinc (Zn) | 200 | 290 | 67.30535 | 0.00380 | 0.03381 | 0.03750 | 0.03750 | 67.30915 | 67.33916 | 67.34285 | 67.34285 |

NOTES:

| | |
|---|---|
| Units | All units in µg/g |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

As demonstrated in Tables 3.5.3.3-1, 3.5.3.3-2, and 3.5.3.3-3, none of the metal parameters for which criteria were available exceeded the respective CCME or MECP Guidelines or Standards for any of the Assessment Scenarios, within any of the Study Areas. As such, no soil COCs are identified requiring qualitative or quantitative assessment as part of the HHERA.

The following chemicals do not have a screening criterion available:

- Bismuth (Bi); and
- Phosphorus (P).

Bismuth is considered to be minimally toxic to human and ecological receptors and pose a negligible amount of potential risk in the environment. As such, no toxicity reference values are available for use in a human or ecological risk assessment of this chemical, and subsequently no risk-based screening criteria have been derived. Based on the current state of science, bismuth is not carried forward as a COC in the HHERA. Should new toxicity information emerge for bismuth to allow for its quantitative assessment of potential risk, a follow-up HHERA may be considered at that time.

Phosphorus is an essential macronutrient for plant growth and is ubiquitous in the environment. However, at elevated levels phosphorus can lead to the proliferation of algae blooms and the eutrophication of waterways. The primary concern of phosphorus is eutrophication rather than chemical specific toxicity and as such no risk-based soil standards or guidelines are available. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

Based on the screening process, no soil COCs are identified for any of the Assessment Scenarios, or Project phases at any of the three Study Areas.

However, changes in the soil concentrations over the life of the Project were incorporated into the evaluation of country foods, as described in Section 3.6, and detailed in Appendix II- Supplemental Information for the HHRA of Country Foods for the Goliath Gold Project.

### 3.5.3.4 Surface Water

Baseline water quality was measured from 15 locations (Figure 3.5.3.4-1) and used to calculate baseline water quality and predicted water quality as a result of the Project at nine (9) nodes (Figure 3.5.3.4-2). As part of the Round 2 information request process, the surface water quality model was modified as provided in the Final Goliath Gold Project Water Addendum. The modified water quality model was expanded to include a small amount of seepage from the TSF during operations (6%), and an expanded list of chemical parameters and all available baseline data. Additionally, TMI_948-SW(2)-01B noted that the raw data and a summary of baseline water quality results was not provided for the data collected during the 2010-2011 sampling program and requested it be added to the surface water quality modelling. The statistical analysis of the 2010-2011 and 2012-2013 datasets indicates that the concentrations of many chemicals including antimony and arsenic were statistically higher in the 2012-2013 data than the 2010-2011 data set. The revised EIS (April 2018) and August Draft of the HHERA relied on the 2012-2013 dataset alone, whereas the January (Round 2) HHERA submission and all Round 2 information request rely on the combined new baseline data set for surface water quality. Therefore, the chemical concentrations of many parameters including antimony and arsenic are lower in the current HHERA than in previous versions submitted as drafts. It is important to note that of the 144 samples

analyzed for mercury, none were reported to have mercury concentrations greater than the analytical detection limits. For the raw data used for the purpose of the HHERA, in the cases where concentrations were not reported greater than their detection limits, the concentration was conservatively set equal to the detection limit. Although conservative, this will result in an overestimate of potential risk for those parameters including mercury (and subsequently methylmercury). A risk communication plan to mitigation the perception of risk resulting from the use of analytical detection limits may be required.

For the purposes of assessing the potential effects of the Project, the revised EIS (April 2018) relied on the 50$^{th}$ percentile of the monitored data for describing baseline water conditions. The selection of the 50$^{th}$ percentile for use in the revised EIS (April 2018) was done to conservatively capture the possible adverse effects, which were described as situations where the Project resulted in surface water concentrations that were predicted to be higher than existing conditions. In that context, choosing the 50$^{th}$ percentile for "baseline" yields a more conservative evaluation as it will result in more predicted adverse effects. However, the UCLM of the available baseline data has been selected as the EPC for water quality for the purposes of the HHERA. In the HHERA, the risks are calculated using the exposure point concentrations, therefore, the use of the 95% UCLM for defining the EPC yields higher baseline surface water concentrations and thus represents a more conservative evaluation for the HHERA.

The areas where access to surface water locations will be affected is shown on Figure 3.5.3.4-3.

Surface water quality was modelled at the nine nodes considering three flow scenarios: wet year, dry year, and average year. Water quality data were modelled for existing conditions (i.e., Base Case Assessment Scenario), and for the effects of the Project (i.e., Project Assessment Scenario) during Operations and Post-Closure phases of the Project. There are no discharges during Site Preparation and Closure phases, therefore, these Project phases did not require surface water quality modelling. During Operations, the only releases from the Project to the environment are a small quality of seepage from the TSF (as described in the Goliath Gold Project Water Addendum) and treated effluent discharged to Blackwater Creek. All excess water not required in the process will be treated and released to Blackwater Creek. The excess water will largely be comprised of water from dewatering of the open pit and underground mining, runoff, and a small volume of excess water from the TSF. As a result, influent water quality to the water treatment plant will reflective of the proportional water quality in the influent sources.

As part of the Round 2 information request process, the Agency requested that Treasury Metals model effluent from the treatment plant. The modelled effluent quality, along with the 95$^{th}$ UCLM of baseline water quality, were used to predict surface water quality at the 9 nodes, for use within the HHERA. As part of the Round 2 information response package, Treasury Metals indicated that at this time Treasury Metals do not intend to move forward using the dry cover for the closure of the TSF and instead is committed to implement the wet cover closure option for the TSF. As such, the Round 2 responses related to mine waste, groundwater, surface water quality, and fish and fish habitat focus on responding to the requested information relevant to the wet cover option only. A sensitivity analysis for the dry cover closure alternative has been provided in Appendix VII of the HHERA report. During post-closure, releases to the receiving environment from the Project, include seepage from the TSF and the WSRA, and the TSF closure options (i.e. wet or dry cover) will affect the quality of seepage. Project features and surface water quality will be monitored in post-closure for as long as the regulatory bodies deem necessary. Independent of the EA process, Treasury Metals will be required to develop in consultation with Indigenous stakeholders and have approved an official closure plan with the Ontario Ministry of Energy, Northern Development and Mines under O. Reg 240/00: Mine Development and Closure Under Part VII of the Act.

The modelled surface water UCLMs and overall EPCs were compared to the Ontario Provincial Water Quality Objectives (PWQO) or when a PWQO was not available, the CCME water quality guidelines (CWQG). The Health Canada health based maximum acceptable concentrations (MAC) served a drinking water quality guideline was also considered for all chemicals. Chemicals were thus considered COCs if they exceeded the lowest of either the PWQO (or CCME), or Health Canada criteria. The EPC for use in the HHERA was selected as the maximum UCLM concentration (i.e. worst-case water quality prediction) at any of the surface water quality nodes, for all flow scenarios (i.e., average year, wet year, or dry year), for each Assessment Scenario, Project Phase, and TSF cover option. The maximum UCLM surface water concentration from any watercourse is conservatively being used for the assessment in Study Areas No. 1, 2 and 3 for each Assessment Scenario and Project phase given that humans and wildlife may have access to all watercourses. The EPC of metals in surface water for all Assessment Scenarios, Project phases, Study Areas, and TSF cover options are summarized in Table 3.5.3.4-1.

Chemical concentrations of all parameters at all surface water sampling nodes for Base Case, Project Alone, and Project Assessment Scenarios are provided in Appendix I-Raw Data.

The results demonstrate that seven (7) parameters including; aluminum, cobalt, iron, phosphorus, silver, thallium, and uranium, exceed their respective PWQO/CCME guideline for the protection of freshwater aquatic life in the Base Case Assessment Scenario and subsequently the Project Assessment Scenario during Operations from the Project alone and Project Assessment Scenarios. The concentration of methylmercury assumed based on the predicted mercury concentration also exceeded it's CCME criteria. None of the parameters in surface water exceeded Health Canada's maximum acceptable concentration protective of drinking water quality and recreational use for any of the Assessment Scenarios and Project Phases. As such there is no potential risk to human receptors identified via exposure to surface water at any of the Study Areas for all Assessment Scenarios. A quantitative assessment is not required as part of the HHRA.

Two parameters, iron and phosphorus, exceeded their respective surface water quality standard however are not being carried forward as COCs in the HHERA based on the following rationale:

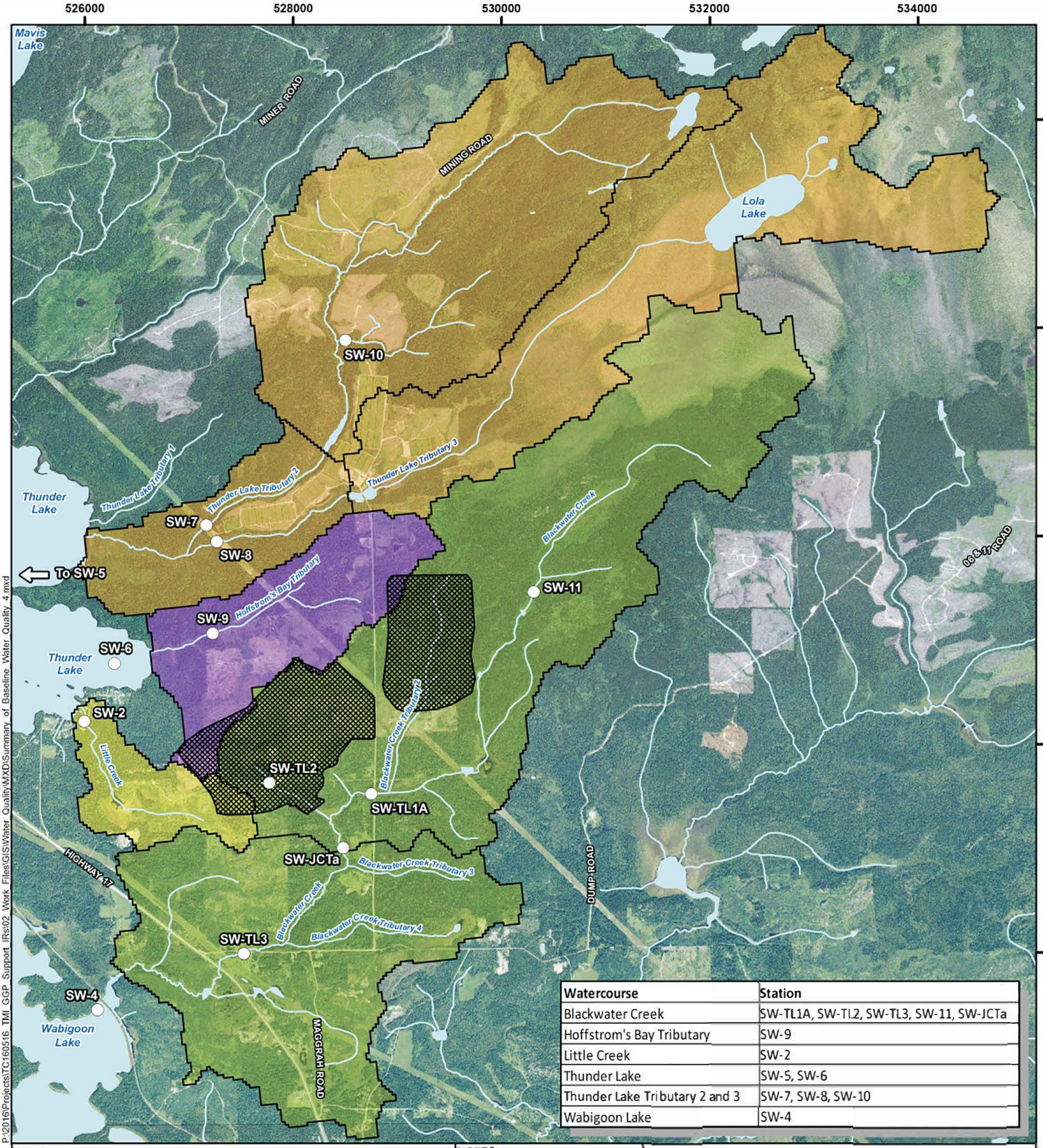
- **Phosphorus**: Phosphorus is an essential macronutrient for plant growth and is ubiquitous in the environment. However, at elevated levels phosphorus can lead to the proliferation of algae blooms and the eutrophication of waterways. The primary concern of phosphorus is eutrophication rather than chemical specific toxicity and as such no risk-based soil standards or guidelines are available. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

- **Iron**: Iron is naturally occurring via erosion and weathering of rocks and minerals. The concentration of iron in the watersheds surrounding the Goliath Gold Project is naturally above the screening criteria. The surface water quality guidelines for iron are set based on aesthetic criteria (i.e., taste and staining of drinking water) rather than protection of human or ecological receptors. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

Appendix I- Raw Data provides the details with respect to the exceedance locations.

Concentrations of lead and mercury were below their respective surface water criteria for all Assessment Scenarios and all project phases. Therefore, no further human or ecological assessment is required based

on the contaminant screening. However, during engagement activities with local Indigenous communities and other stakeholder groups, concern was specifically expressed regarding the concentration of these parameters in surface water. As such, they will conservatively be assessed in both the HHRA and ERA at their maximum EPC. In aquatic systems inorganic mercury may be transformed via abiotic respiration to organic methylmercury which can bioaccumulate within organisms and pose risk to human health. Methylmercury was not measured as part of the baseline sampling efforts. For all Assessment Scenarios and project phases, methylmercury in water is conservatively assumed to be 10% of the mercury concentration. Recent literature (Ullrich, 2001; Jeremiason et al., 2006) has suggested that, in the presence of organic materials, the production of methylmercury varies with the concentrations of sulphate present in the environment. The literature indicates that when sulphate concentrations are in the range of 20 to 50 mg/L, the rate methylation of mercury is enhanced by the presence of sulphate-reducing bacteria. The literature also indicates that the rate methylation is inhibited at sulphate concentrations above and below this range. According to the CCME (2003), typically methylmercury represents 10% of the total mercury in surface waters but can exceed 30% in perturbed systems such as newly formed reservoirs. As shown in Table 3.5.3.4-1, the sulphate UCLM concentration was 3.23 which is not within the optimal range required for enhanced methylmercury production. As such, it is appropriate to assume the methylmercury concentration is equal to 10% of the mercury concentration in areas surrounding the Goliath Gold Project.




| Watercourse | Station |
|---|---|
| Blackwater Creek | SW-TL1A, SW-TL2, SW-TL3, SW-11, SW-JCTa |
| Hoffstrom's Bay Tributary | SW-9 |
| Little Creek | SW-2 |
| Thunder Lake | SW-5, SW-6 |
| Thunder Lake Tributary 2 and 3 | SW-7, SW-8, SW-10 |
| Wabigoon Lake | SW-4 |

**LEGEND**

- Baseline Surface Water Quality Sampling Locations
- Operations Area

Watershed

- Blackwater Creek
- Hoffstrom's Bay Tributary
- Little Creek
- Thunder Lake Tributary 2 and 3

NOTES:
- Topographic data extracted from Land Information Ontario, MNRF.
- Imagery extracted from Agriculture Information Atlas, OMAFRA.
- Baseline locations from Appendix P of the EIS.

Datum: NAD83
Projection: UTM Zone 15N

0 0.25 0.5 1 1.5 2 2.5 3 Kilometres

TREASURY METALS Inc.

wood.

# GOLIATH GOLD PROJECT

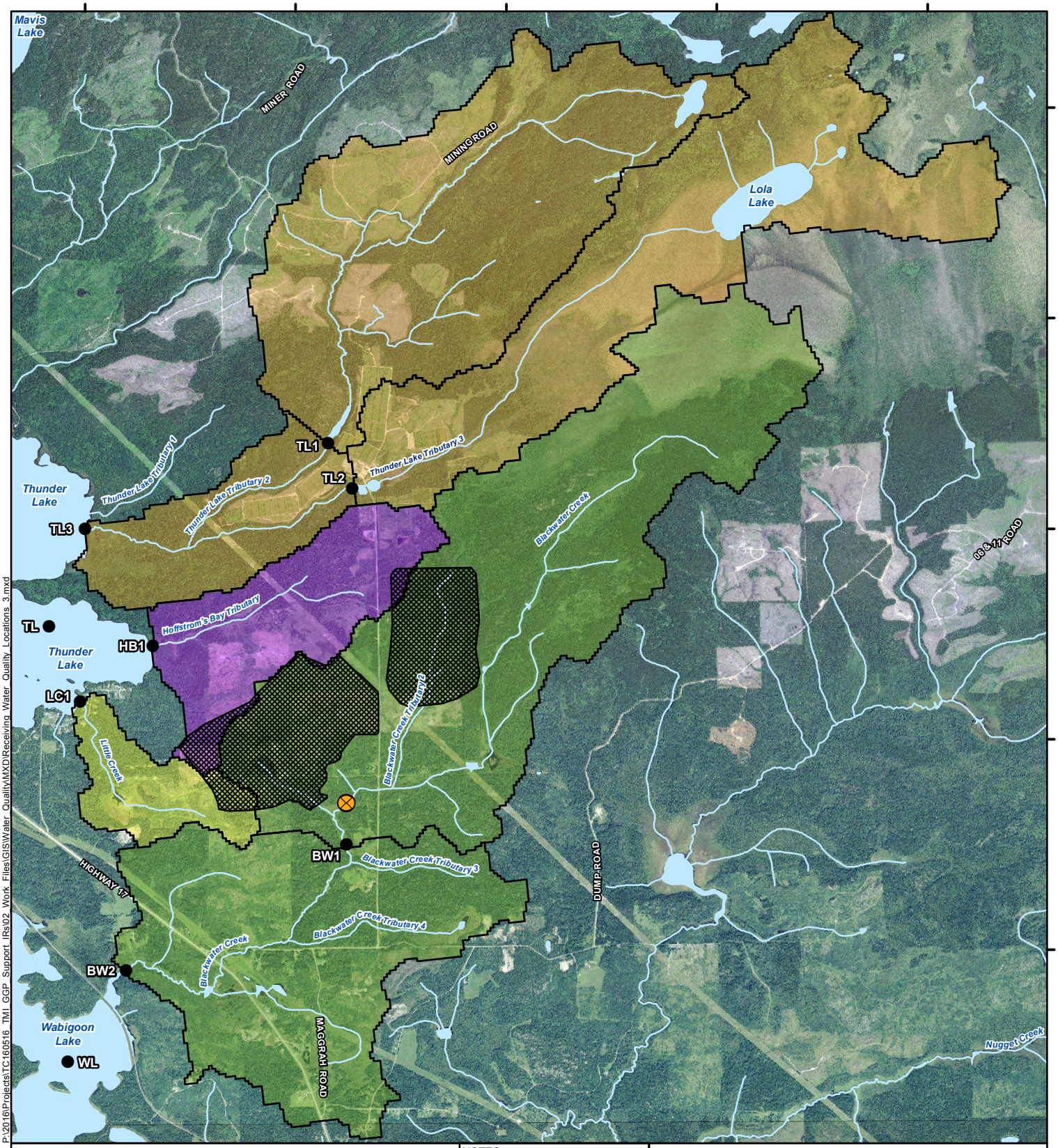
## Baseline Surface Water Quality Modelling Nodes

PROJECT N°

SCALE: 1:50,000

**FIGURE: 3.5.3.4-1**

DATE: 2018

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## LEGEND

- Surface Water Quality Node
- Operations Area
- Effluent Discharge Location

**Watershed**

- Blackwater Creek
- Hoffstrom's Bay Tributary
- Little Creek
- Thunder Lake Tributary 2 and 3

NOTES:
- Topographic data extracted from Land Information Ontario, MNRF.
- Imagery extracted from Agriculture Information Atlas, OMAFRA.

Datum: NAD83
Projection: UTM Zone 15N

0 0.25 0.5 1 1.5 2 2.5 3 Kilometres

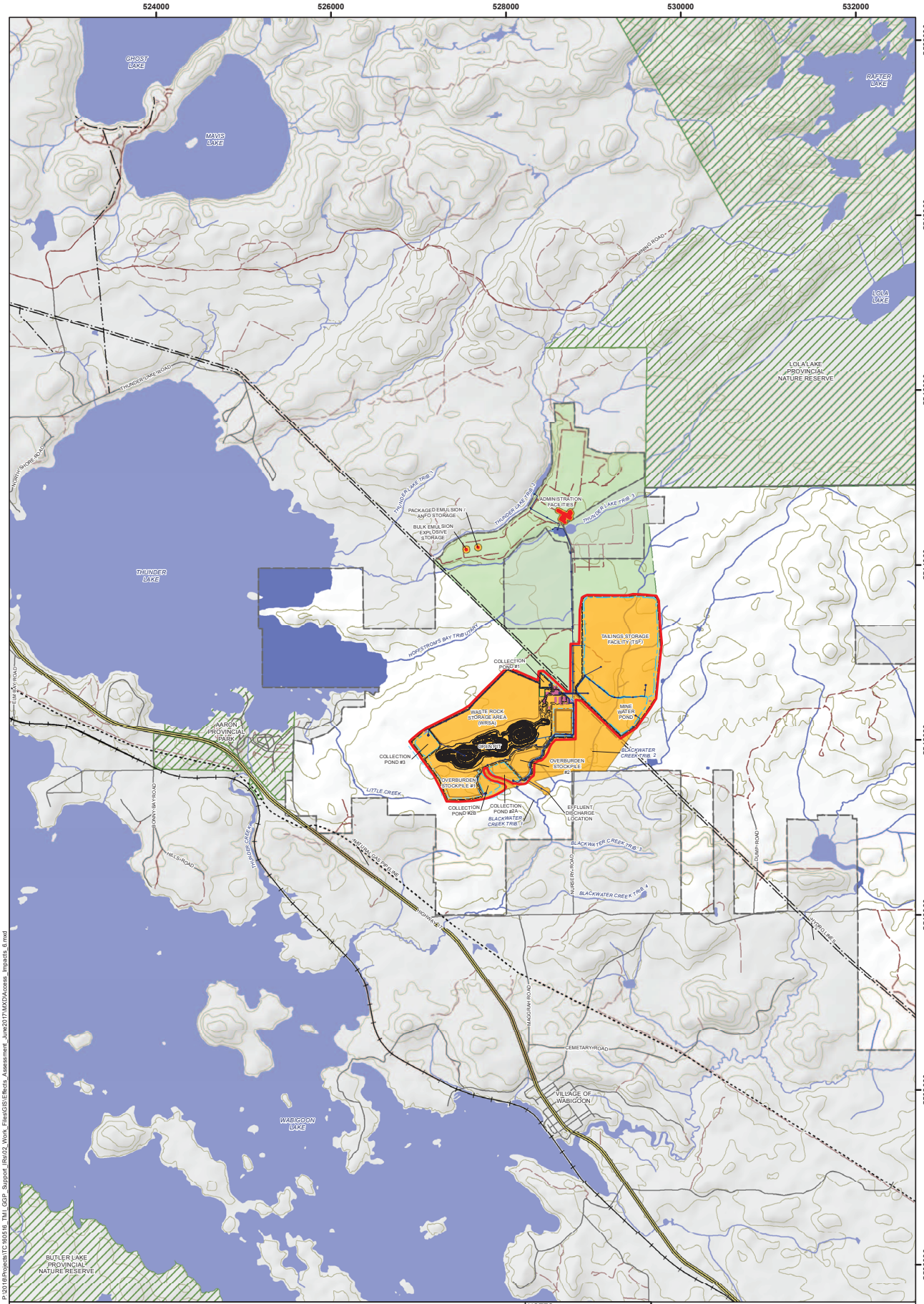
TREASURY METALS Inc.

wood.

# GOLIATH GOLD PROJECT

## Surface Water Quality Locations

| | |
|---|---|
| PROJECT N°: TC160516 | **FIGURE: 3.5.3.4-2** |
| SCALE: 1:50,000 | DATE: April 2017 |

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## LEGEND

- Railway
- Hydro Line
- Natural Gas Pipeline
- Highway
- Local Street
- Resource / Recreation Trail
- Provincial Park
- Watercourse
- Waterbody
- Contours (10 m interval)
- Property Boundary of Claims and Dispositions
- Area Beyond Property Boundary
- Site Infrastructure
- Access Haul Roads
- Pipeline
- Ditching
- Emergency Spillway
- Processing Plant and Ancillary Facilities
- Security Fence
- Stockpile
- Operations Area
- Access Impact Footprint
- Access Affected Areas

NOTES:
- Topographic data extracted from Land Information Ontario (LIO), MNRF.
- Watercourses represent pre-development conditions based on LIO database, as modified by KBM.

Datum: NAD83
Projection: UTM Zone 15N

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wood.

**GOLIATH GOLD PROJECT**

**Areas Where Access Wil be Affectedl**

PROJECT Nº: TC160516

**FIGURE: 3.5..3.43**

SCALE: 1:40,000

DATE: September 2018

**Table 3.5.3.4-1: Exposure Point Concentration of Metals in Surface Water (Assumed for all Study Areas)**

| Parameter | Criteria (PWQO, CWQG, HC MAC) | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Aluminum** | 0.075 | **$6.22 \times 10^{-1}$** | 0 | 0.00 | 0 | 0.00 | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** |
| Antimony | 0.006 | $2.02 \times 10^{-3}$ | 0 | $3.42 \times 10^{-7}$ | 0 | $1.41 \times 10^{-7}$ | $2.02 \times 10^{-3}$ | $2.02 \times 10^{-3}$ | $2.02 \times 10^{-3}$ | $2.02 \times 10^{-3}$ |
| Arsenic | 0.01 | $2.30 \times 10^{-3}$ | 0 | 0.00 | 0 | $1.25 \times 10^{-8}$ | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ |
| Beryllium | 0.011 | $2.15 \times 10^{-3}$ | 0 | $4.34 \times 10^{-19}$ | 0 | 0.00 | $2.15 \times 10^{-3}$ | $2.15 \times 10^{-3}$ | $2.15 \times 10^{-3}$ | $2.15 \times 10^{-3}$ |
| Boron | 0.2 | $1.00 \times 10^{-1}$ | 0 | 0.00 | 0 | $1.38 \times 10^{-6}$ | $1.00 \times 10^{-1}$ | $1.00 \times 10^{-1}$ | $1.00 \times 10^{-1}$ | $1.00 \times 10^{-1}$ |
| Cadmium | 0.0002 | $8.24 \times 10^{-5}$ | 0 | 0.00 | 0 | 0.00 | $8.24 \times 10^{-5}$ | $8.24 \times 10^{-5}$ | $8.24 \times 10^{-5}$ | $8.24 \times 10^{-5}$ |
| Chloride | 120 | 6.08 | 0 | $1.24 \times 10^{-3}$ | 0 | 0.00 | 6.08 | 6.08 | 6.08 | 6.08 |
| Chromium | 0.0089 | $2.30 \times 10^{-3}$ | 0 | 0.00 | 0 | 0.00 | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ | $2.30 \times 10^{-3}$ |
| **Cobalt** | 0.0009 | **$1.72 \times 10^{-3}$** | 0 | 0.00 | 0 | 0.00 | **$1.72 \times 10^{-3}$** | **$1.54 \times 10^{-3}$** | **$1.72 \times 10^{-3}$** | **$1.58 \times 10^{-3}$** |
| Copper | 0.005 | $2.65 \times 10^{-3}$ | 0 | 0.00 | 0 | $3.06 \times 10^{-4}$ | $2.65 \times 10^{-3}$ | $2.65 \times 10^{-3}$ | $2.65 \times 10^{-3}$ | $2.96 \times 10^{-3}$ |
| Cyanide | 0.005 | $3.62 \times 10^{-3}$ | 0 | 0.00 | 0 | 0.00 | $3.62 \times 10^{-3}$ | $3.62 \times 10^{-3}$ | $3.62 \times 10^{-3}$ | $3.62 \times 10^{-3}$ |
| **Iron** | 0.3 | **2.45** | 0 | 0.00 | 0 | 0.00 | **2.45** | **2.24** | **2.45** | **2.30** |
| Lead | 0.01 | $2.06 \times 10^{-3}$ | 0 | $4.34 \times 10^{-19}$ | 0 | $1.19 \times 10^{-4}$ | $2.06 \times 10^{-3}$ | $2.06 \times 10^{-3}$ | $2.06 \times 10^{-3}$ | $2.18 \times 10^{-3}$ |
| Mercury | 0.0002 | $7.46 \times 10^{-5}$ | 0 | $2.11 \times 10^{-9}$ | 0 | 0.00 | $7.46 \times 10^{-5}$ | $7.46 \times 10^{-5}$ | $7.46 \times 10^{-5}$ | $7.46 \times 10^{-5}$ |
| **Methylmercury** | 0.000004 | **$8.29 \times 10^{-6}$** | 0 | $2.34 \times 10^{-10}$ | 0 | 0.00 | **$8.29 \times 10^{-6}$** | **$8.29 \times 10^{-6}$** | **$8.29 \times 10^{-6}$** | **$8.28 \times 10^{-6}$** |
| Molybdenum | 0.04 | $2.13 \times 10^{-3}$ | 0 | $4.34 \times 10^{-19}$ | 0 | $1.42 \times 10^{-8}$ | $2.13 \times 10^{-3}$ | $2.13 \times 10^{-3}$ | $2.13 \times 10^{-3}$ | $2.13 \times 10^{-3}$ |
| Nickel | 0.025 | $4.21 \times 10^{-3}$ | 0 | $1.68 \times 10^{-3}$ | 0 | $6.96 \times 10^{-3}$ | $4.21 \times 10^{-3}$ | $5.89 \times 10^{-3}$ | $4.21 \times 10^{-3}$ | $1.12 \times 10^{-2}$ |
| Nitrate | 13 | $1.62 \times 10^{-1}$ | 0 | $2.78 \times 10^{-17}$ | 0 | 0.00 | $1.62 \times 10^{-1}$ | $1.62 \times 10^{-1}$ | $1.62 \times 10^{-1}$ | $1.62 \times 10^{-1}$ |
| **Phosphorus** | 0.03 | **$6.06 \times 10^{-2}$** | 0 | 0.00 | 0 | 0.00 | **$6.06 \times 10^{-2}$** | **$6.06 \times 10^{-2}$** | **$6.06 \times 10^{-2}$** | **$6.06 \times 10^{-2}$** |
| Selenium | 0.1 | $2.89 \times 10^{-2}$ | 0 | 0.00 | 0 | 0.00 | $2.89 \times 10^{-2}$ | $2.56 \times 10^{-2}$ | $2.89 \times 10^{-2}$ | $2.43 \times 10^{-2}$ |
| **Silver** | 0.0001 | **$2.09 \times 10^{-4}$** | 0 | $2.71 \times 10^{-20}$ | 0 | 0.00 | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** |
| Sulphate | 20 | 3.23 | 0 | $2.77 \times 10^{-4}$ | 0 | 5.17 | 3.23 | 3.23 | 3.23 | 8.40 |
| **Thallium** | 0.0003 | **$6.28 \times 10^{-4}$** | 0 | $1.08 \times 10^{-19}$ | 0 | 0.00 | **$6.28 \times 10^{-4}$** | **$6.28 \times 10^{-4}$** | **$6.28 \times 10^{-4}$** | **$6.28 \times 10^{-4}$** |
| **Uranium** | 0.005 | **$9.96 \times 10^{-3}$** | 0 | $1.73 \times 10^{-18}$ | 0 | 0.00 | **$9.96 \times 10^{-3}$** | **$9.96 \times 10^{-3}$** | **$9.96 \times 10^{-3}$** | **$9.96 \times 10^{-3}$** |
| Vanadium | 0.006 | $2.51 \times 10^{-3}$ | 0 | $4.34 \times 10^{-19}$ | 0 | 0.00 | $2.51 \times 10^{-3}$ | $2.51 \times 10^{-3}$ | $2.51 \times 10^{-3}$ | $2.51 \times 10^{-3}$ |
| Zinc | 0.03 | $1.47 \times 10^{-2}$ | 0 | 0.00 | 0 | $9.42 \times 10^{-4}$ | $1.47 \times 10^{-2}$ | $1.47 \times 10^{-2}$ | $1.47 \times 10^{-2}$ | $1.56 \times 10^{-2}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

### 3.5.3.5 Project-Specific Media

The nature of the Project dictates that, within the Operations Area (i.e., Study Area No. 1), additional Project-specific media should be considered when assessing potential human and ecological health risk. During operations, human receptors, specifically workers, may be exposed via direct dermal contact and incidental ingestion of waste rock and TSF supernatant water. Human receptors will also have access to the pit-lake during the Post-Closure phase of the Project and therefore the pit lake water quality requires assessment of the dermal contact and ingestion pathways. Ecological receptors including plants, mammals and birds may be exposed to COCs in the pit-lake, waste rock, or TSF supernatant water. The EPC of chemicals in Project-specific media including waste rock and TSF supernatant water, and the pit-lake, are described in Tables 3.5.3.5-1, 3.5.3.5-2, and 3.5.3.5-3, respectively.

Ore samples were collected and analysed for metal concentrations as part of Treasury Metals' exploration program. Metal concentrations in ore may serve as a surrogate for the metal concentration in future tailings. From an environmental prospective the biggest concern with tailings is metal leaching and residual adverse effects to the surrounding surface water bodies. The original screening level risk assessment (SLRA) assessed tailings as an operable exposure media considering that the exposure pathways would be the same for waste rock and soils. The original SLRA was provided as Appendix W to the original EIS, however has been superseded with the current HHERA. In the revised design of the Project, tailings from the Goliath Gold Project will be maintained under water cover during the Operations Phase of the Project and then maintained in perpetuity under a wet cover during Post-Closure as described in Section 3.3.3. The intent of the wet cover during operations and post-closure is to ensure tailings are in a saturated condition in perpetuity, thus effectively preventing the onset of acid rock drainage and metal leaching. As part of the Round 2 information request process, a multi-year cover model was prepared which confirmed the long-term viability of the wet cover for closure of the Goliath Gold TSF. Given that the tailings are covered in perpetuity and chemically isolated from the environment, human exposure with the tailings is not considered an operable exposure pathway. The TSF will be lined with a geosynthetic liner (HDPE) which has an expected service life of over 400 years. The estimated seepage rate from the lined TSF of 2.4 $m^3$/day (40L/ha/day × 60 ha) is based on current industry research presented by Kerry Rowe et al. (2016), "Leakage Through Holes in Geomembrane Below Saturated Tailings". A seepage rate of 2.4 $m^3$/day was confirmed as part of the Round 2 information request and used in the revised surface water quality modeling as described in the Goliath Gold Project Water Addendum and for the calculation of exposure point concentration relied upon in the HHERA. Independent of the Environmental Assessment process, Treasury Metals will be required to develop and have approved an official closure plan with the Ontario Ministry of Energy, Northern Development and Mines under O. Reg 240/00: Mine Development and Closure Under Part VII of the Act. There is a formal review process for that which includes external technical review by federal agencies including NRCan and consultation with Indigenous stakeholders. There are requirements by the Ontario Ministry of Energy, Northern Development and Mines that the closure plan be reported on annually, and monitoring continue through post-closure until a time that they determine to be appropriate.

Raw data for Project-specific media are provided in Appendix I-Raw Data. Waste rock data EPCs were selected as the UCLM of 161 waste rock samples submitted for laboratory analysis of select metals and is provided below. The EPCs of antimony, arsenic, cadmium, cobalt, lead, mercury, silver and zinc in waste rock exceeded their respective screening criteria and are considered COCs requiring assessment as part of the HHERA.

The TSF supernatant water is the only media type for which the EPC concentrations represent the maximum predicted as only one prediction was made (N=1), and therefore the 95% UCLM could not be calculated. Process water going into the TSF will be treated in the cyanide destruction circuit prior to discharge to the TSF. As noted in Section 3 of the revised EIS, the $SO_2$-air destruction process has been chosen as the preferred method for cyanide destruction. The tailings solution chemistry coming from the detoxification circuit was modelled using the PHREEQCI model, using results presented in literature (Devuyst et al., 1988; Devuyst et al., 1989) for comparable free milling gold circuits. In the modelling, typical $SO_2$-air removal factors were assumed. Ammonia has been assumed at a value of 6 mg/L which is a common target when using the $SO_2$-air cyanide destruction process. The EPCs of aluminum, antimony, cobalt , copper, cyanide, lead, mercury, assumed methylmercury, thallium and zinc in TSF supernatant water exceeded their respective screening criteria and are considered COCs requiring assessment as part of the HHERA.

Two parameters, iron and phosphorus, exceeded their respective surface water quality standard in TSF supernatant water, however, are not being carried forward as COCs in the HHERA based on the following rationale:

- **Phosphorus:** Phosphorus is an essential macronutrient for plant growth and is ubiquitous in the environment. However, at elevated levels phosphorus can lead to the proliferation of algae blooms and the eutrophication of waterways. The primary concern of phosphorus is eutrophication rather than chemical specific toxicity and as such no risk-based soil standards or guidelines are available. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

- **Iron:** Iron is naturally occurring via erosion and weathering of rocks and minerals. The concentration of iron in the watersheds surrounding the Goliath Gold Project is naturally above the screening criteria. The surface water quality guidelines for iron are set based on aesthetic criteria (i.e., taste and staining of drinking water) rather than protection of human or ecological receptors. It is not considered a COC to human or ecological receptors, and is subsequently not carried forward for further assessment.

The water quality of the pit-lake was modelled and COCs selected in the same way as the surface water described in 3.5.3.4. Only the 95$^{th}$ UCLM of aluminum exceeded its CCME criteria and iron and phosphorous were screened out based on the logic provided above.

**Table 3.5.3.5-1: Exposure Point Concentration of Metals in Waste Rock**

| Parameter | CCME Soil Guidelines | MECP Table 1 Site Condition Standards | Waste Rock UCLM |
|---|---|---|---|
| **Antimony** | 20 | 1 | **4.695** |
| **Arsenic** | 12 | 11 | **19.466** |
| Barium | 750 | 210 | 80.515 |
| Beryllium | 4 | 2.5 | 0.260 |
| Bismuth | — | — | 0.153 |
| Boron | — | 36 | 35.270 |
| **Cadmium** | 1.4 | 1 | **1.106** |
| Chromium | 64 | 67 | 43.825 |
| **Cobalt** | 40 | 19 | **119.807** |
| Copper | 63 | 62 | 39.316 |
| Iron | — | 34,000[a] | 19972.159 |
| **Lead** | 70 | 45 | **144.735** |
| Manganese | — | — | 409.562 |
| **Mercury** | 6.6 | 0.16 | **0.275** |
| Molybdenum | 5 | 2 | 0.940 |
| Nickel | 45 | 37 | 21.009 |
| Selenium | 1 | 1.2 | 0.854 |
| **Silver** | 20 | 0.5 | **1.275** |
| Strontium | — | — | 18.110 |
| Thallium | 1 | 1 | 0.299 |
| Tin | 5 | — | 0.865 |
| Uranium | 23 | 1.9 | 0.937 |
| Vanadium | 130 | 86 | 20.605 |
| **Zinc** | 200 | 290 | **443.903** |

NOTES:

| | |
|---|---|
| Units | All units in µg/m$^3$ |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

**Table 3.5.3.5-2: Exposure Point Concentration of Metals in TSF Supernatant Water**

| Parameter | Criteria (PWQO/ CWQG or HC MAC) | Predicted Tailings Supernatant |
|---|---|---|
| **Aluminum** | 0.075 | **0.199** |
| **Antimony** | 0.006 | **0.002** |
| **Arsenic** | 0.01 | **0.018** |
| Barium | — | 0.012 |
| Beryllium | 0.011 | 0.0005 |
| Bismuth | — | 0.0005 |
| Boron | 0.2 | 0.02 |
| Cadmium | 0.002 | 0.002 |
| Calcium | — | 7.15 |
| Carbonate | — | 15.88 |
| Chromium | 0.0089 | 0.0001 |
| Chloride | 120 | 0.78 |
| **Cobalt** | 0.0009 | **0.004** |
| **Copper** | 0.005 | **0.018** |
| **Cyanide** | 0.005 | **<1**** |
| **Iron** | 0.3 | **0.358** |
| **Lead** | 0.005 | **0.082** |
| Lithium | — | 0.024 |
| Magnesium | — | 1.44 |
| Manganese | — | 0.063 |
| **Mercury** | 0.0002 | **0.00162** |
| **Methylmercury** | 0.00004 | **0.00018** |
| Molybdenum | 0.04 | 0.001 |
| Nickel | 0.025 | 0.021 |
| Nitrate (as N) | 13 | 7.07 |
| **Phosphorus** | 0.03 | **0.06** |
| Potassium | — | 1.78 |
| Selenium | 0.1 | 0.0005 |
| Silicon | — | 0.099 |
| Silver | 0.0001 | 0.00005 |
| Sodium | — | 1.16 |
| Strontium | — | 0.032 |

**Table 3.5.3.5-2: Exposure Point Concentration of Metals in TSF Supernatant Water (continued)**

| Parameter | Criteria (PWQO/ CWQG or HC MAC) | Predicted Tailings Supernatant |
|---|---|---|
| Sulphate | — | 68.67 |
| Sulphur | — | 22.94 |
| **Thallium** | 0.0003 | **0.642** |
| Tin | — | 0.0005 |
| Titanium | — | 0.003 |
| Uranium | 0.005 | 0.005 |
| Vanadium | 0.006 | 0.004 |
| **Zinc** | 0.03 | **0.04** |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

**Table 3.5.3.5-3: Exposure Point Concentration of Metals in Pit-Lake Water**

| Parameter | Criteria (PWQO/ CWQG, or MAC) | Base Case | Project Alone | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **Aluminum** | $7.50 \times 10^{-2}$ | — | — | — | — | **$2.74 \times 10^{-1}$** | — | — | — | **$2.74 \times 10^{-1}$** |
| Antimony | $2.00 \times 10^{-2}$ | — | — | — | — | $1.13 \times 10^{-3}$ | — | — | — | $1.13 \times 10^{-3}$ |
| Arsenic | $1.00 \times 10^{-1}$ | — | — | — | — | $1.42 \times 10^{-3}$ | — | — | — | $1.42 \times 10^{-3}$ |
| Beryllium | $1.10 \times 10^{-2}$ | — | — | — | — | $1.03 \times 10^{-3}$ | — | — | — | $1.03 \times 10^{-3}$ |
| Boron | $2.00 \times 10^{-1}$ | — | — | — | — | $5.15 \times 10^{-2}$ | — | — | — | $5.15 \times 10^{-2}$ |
| Cadmium | $2.00 \times 10^{-4}$ | — | — | — | — | $9.37 \times 10^{-5}$ | — | — | — | $9.37 \times 10^{-5}$ |
| Chloride | $1.20 \times 10^{2}$ | — | — | — | — | 1.58 | — | — | — | 1.58 |
| Chromium | $8.90 \times 10^{-3}$ | — | — | — | — | $9.68 \times 10^{-4}$ | — | — | — | $9.68 \times 10^{-4}$ |
| Cobalt | $9.00 \times 10^{-4}$ | — | — | — | — | $9.00 \times 10^{-4}$ | — | — | — | $9.00 \times 10^{-4}$ |
| Copper | $5.00 \times 10^{-3}$ | — | — | — | — | $3.89 \times 10^{-3}$ | — | — | — | $3.89 \times 10^{-3}$ |
| Cyanide | $5.00 \times 10^{-3}$ | — | — | — | — | $2.07 \times 10^{-3}$ | — | — | — | $2.07 \times 10^{-3}$ |
| **Iron** | $3.00 \times 10^{-1}$ | — | — | — | — | **1.50** | — | — | — | **1.50** |
| Lead | $5.00 \times 10^{-3}$ | — | — | — | — | $2.91 \times 10^{-3}$ | — | — | — | $2.91 \times 10^{-3}$ |
| Mercury | $2.00 \times 10^{-4}$ | — | — | — | — | $1.80 \times 10^{-5}$ | — | — | — | $1.80 \times 10^{-5}$ |
| Methylmercury* | $4.00 \times 10^{-6}$ | — | — | — | — | $2.00 \times 10^{-6}$ | — | — | — | $2.00 \times 10^{-6}$ |
| Molybdenum | $4.00 \times 10^{-2}$ | — | — | — | — | $1.01 \times 10^{-3}$ | — | — | — | $1.01 \times 10^{-3}$ |
| Nickel | $2.50 \times 10^{-2}$ | — | — | — | — | $2.50 \times 10^{-2}$ | — | — | — | $2.50 \times 10^{-2}$ |
| Nitrate | $1.30 \times 10^{1}$ | — | — | — | — | $6.67 \times 10^{-2}$ | — | — | — | $6.67 \times 10^{-2}$ |
| **Phosphorus** | $3.00 \times 10^{-2}$ | — | — | — | — | **$3.04 \times 10^{-2}$** | — | — | — | **$3.04 \times 10^{-2}$** |
| Selenium | $1.00 \times 10^{-1}$ | — | — | — | — | $9.55 \times 10^{-4}$ | — | — | — | $9.55 \times 10^{-4}$ |
| Silver | $1.00 \times 10^{-4}$ | — | — | — | — | $9.96 \times 10^{-5}$ | — | — | — | $9.96 \times 10^{-5}$ |
| Thallium | $2.00 \times 10^{1}$ | — | — | — | — | $2.00 \times 10^{1}$ | — | — | — | $2.00 \times 10^{1}$ |
| Uranium | $3.00 \times 10^{-4}$ | — | — | — | — | $3.00 \times 10^{-4}$ | — | — | — | $3.00 \times 10^{-4}$ |
| Vanadium | $5.00 \times 10^{-3}$ | — | — | — | — | $5.00 \times 10^{-3}$ | — | — | — | $5.00 \times 10^{-3}$ |
| Zinc | $6.00 \times 10^{-3}$ | — | — | — | — | $1.04 \times 10^{-3}$ | — | — | — | $1.04 \times 10^{-3}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| * | Assumed concentration. Methylmercury concentrations in all media are conservatively assumed to equal 100% of the mercury concentration |
| **BOLD & SHADED** | Concentration exceeds criteria, parameter carried forward as COC in HHERA |
| **BOLD & SHADED** | Concentration exceeds criteria, however criteria set based on criteria other than human or ecological health. Parameter is not carried forward as COC in HHERA. |

## 3.6 Country Foods Assessment

### 3.6.1 Scope and Objectives

The Goliath Gold Project is located within the area covered by Treaty 3. Treaty 3 includes 28 First Nation communities and a number of villages and towns including Wabigoon, Dryden, Eagle River, Vermillion Bay, Sioux Lookout, Atikokan, Fort Frances, and Kenora. The Project is also located within an area identified by the Métis Nation of Ontario as the Treaty 3/Lake of the Woods/Lac Seul/Rainy River/Rainy Lake traditional harvesting territories, also named Region 1. In the body of the EIS, Aboriginal and Treaty Rights are defined as the historic and current uses of lands and resources for traditional purposes by members of Indigenous communities. It is Treasury Metals' understanding that Aboriginal peoples are entitled to access to their lands according to their Aboriginal and Treaty #3 (1873) Rights, and Treasury Metals is committed to working with the Indigenous communities to ensure that the effects of the Project on their traditional land and resource use, or alternatively referred to as Aboriginal and Treaty Rights, are appropriately considered and protected. Based on information obtained through meaningful engagement activities and secondary sources, members of several local and regionally based Indigenous communities utilize lands and resources in the general vicinity of the Project for hunting, trapping, fishing, and the harvesting/gathering of plants including berries, wild rice, and Labrador Tea.

Treasury Metals have advanced their engagement with all Indigenous stakeholders including Métis Nation of Ontario (MNO), Asubpeeschoseewagong Netum Anishinabek (ANA) (previously referred to as Grassy Narrows First Nation), Naotkamegwanning First Nation (NFN), Eagle Lake First Nation (ELFN) and Wabigoon Lake Ojibway Nation (WLON) and currently have a framework in place to provide funding to support their technical review of the revised EIS (April 2018) and the Round 2 information requests. A formal traditional knowledge and land and resource use study (TKLUS) for the Goliath Gold Project has been received by MNO, and another is currently in preparation by ELFN that their consultants. The TKLU study received by MNO was used to confirm the prediction of the revised EIS (April 2018) and inform features of the follow up program. Information from formal and informal traditional knowledge and traditional land and resource use studies or workshops from other Indigenous communities will be used in similarly. Treasury Metals looks forward to working all Indigenous communities to develop specific plan for addressing changes in access, restricted access and changes to the quality "on the land experience". Treasury Metals is working with Indigenous communities to develop community specific mitigation measures, monitoring programs, access management plans, and risk communication plans.

The effects of the Project on Aboriginal Peoples and traditional land use were assessed in Section 6.21 and 6.22, respectively, of the revised EIS (April 2018) using the following valued components, indicators, and measures related to country foods:

**Table 3.6.1-1 Valued Components, Indicators, and Measures Applied in the EIS to Assess the Effects of the Project on Indigenous People**

| Valued Components (VCs) | Indicators | Measures |
|---|---|---|
| Harvesting and gathering of plant material | Wild rice | Loss of wild rice areas |
| | | Changes in water quality |
| | | Changes in water levels |
| | | **Changes in quality for consumption** |
| | Berry Harvesting | Loss of potential harvest areas |
| | | **Changes in quality for consumption** |

| Valued Components (VCs) | Indicators | Measures |
|---|---|---|
| | Medicinal plant harvesting | Loss of forest |
| | | Loss of wetland |
| | | **Changes in quality for consumption** |
| | Changes in access | Land where access is controlled |
| | | Lands removed from access |
| | Diminished on-the-land experience | Changed views |
| | | Noticeable changes in noise |
| Hunting | Ungulates | Habitat loss |
| | | **Changes in quality for consumption** |
| | Furbearers | Habitat loss |
| | Waterfowl | Habitat loss |
| | | **Changes in quality for consumption** |
| | Changes in access | Land where access is controlled |
| | | Lands removed from access |
| | Diminished on-the-land experience | Changed views |
| | | Noticeable changes in noise |
| Trapping | Furbearers | Habitat loss |
| | Changes in access | Land where access is controlled |
| | | Lands removed from access |
| | Diminished on-the-land experience | Changed views |
| | | Noticeable changes in noise |
| Fishing | Sport fish | Change in abundance |
| | | **Changes in quality for consumption** |
| | Baitfish | Change in abundance |
| | Commercial fishing | **Fish for consumption (sport fish)** |
| | | Baitfish collection |
| | Changes in access | Land where access is controlled |
| | | Lands removed from access |
| | Diminished on-the-land experience | Changed views |
| | | Noticeable changes in noise |

NOTES:

**BOLD & SHADED** — Objective of Country Foods Assessment presented within the HHERA Report

At the time the revised EIS was submitted in April 2018 the current Health Canada guidance for country foods assessment was their 2010 guidance document entitled, "*Supplemental Guidance on Human Health Risk Assessment for County Foods*". As part of the Round 2 Information Request process, Health Canada identified that as of June 2018, a new country foods guidance document was available entitled "*Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods*". The overall objective of the new guidance document is to provide technical guidance on defining country foods on a project basis, and assessing baseline conditions and the longer term anticipated impacts as a result of the project. It also provides recommendations for the cumulative effects assessment (if required) as well as Follow-Up Programs to confirm the results of the revised EIS, and monitoring. As per the 2018 Health Canada country foods guidance document, the county foods assessment herein does not aim to assess the effects of the Project on changes in country foods abundance, those are assessed in Section 6 of the revised EIS using the data provided by the various technical disciplines as provided in the 38 appendices to the EIS (April 2018).

Although the 2018 Health Canada guidance document was not available at the time of the revised EIS submission in April 2018, as demonstrated in Table 3.5.3-1, the valued components, measures, and indicators applied in the EIS related to country foods sufficiently meet the overall objectives of the guidance document including (but not limited to) the assessment of effects of the Project on the quality of country foods for consumption as well as the importance of the incorporation of traditional knowledge and consideration of current use of lands and resources for traditional purposes. The specific purpose of the country foods assessment presented herein is to provide the results of the assessment of effects on the changes in country food quality for consumption as a result of the Project. All other measures were assessed as part of the various technical disciplines in Section 6 of the revised EIS (April 2018), and where residual effects were identified carried forward for assessment of cumulative effects assessment and determination of significance as per the requirements of the revised EIS set out in the EIS guidelines (Appendix Y to the EIS [April 2018]). In the event the country foods assessment completed as part of the HHRA identifies residual adverse effects, as per the EIS guidelines, they will be carried forward for cumulative effects assessment and determination of significance.

A useful checklist tool was also provided as part of the 2018 Health Canada guidance entitled Appendix A: Country Foods in Environmental Checklist. This checklist is to be used by risk assessors to verify that the main components of the risk assessment for country foods are completed, and to identify where this information is located within the EIS document. The Appendix A: Country Foods in Environmental Checklist for the Goliath Gold Project demonstrating that the 2018 requirements of a country foods risk assessment have been met, is provided as Figure 1 in Appendix II of the HHERA Report, Supplemental Information for the HHRA of Country Foods for the Goliath Gold Project.

### 3.6.2 Traditional Knowledge and Traditional Land and Resource Use

During meaningful engagement activities in support of the EIS (April 2018), members of several Indigenous communities identified locations where they practice their current use of lands and resources for traditional purposes which included areas that fall within the Operations Area and the LSA. As such, traditional use of land and resources including hunting, fishing, trapping, and harvesting/gathering of plants is conservatively assumed to occur in all areas of Study Area No. 1 the Operations Area, and Study Area No. 2 the LSA, including areas within the Property Boundary. Since the time of the revised EIS (April 2018), the Métis Nation of Ontario (MNO)have provided Treasury Metals a Traditional Knowledge and Land Use Study (TKLUS) for the Goliath Gold Project and confirmed the spatial extents of traditional land and resource use including country foods harvesting. As shown on Figure 3.6.2-1, it was identified that there is overlap of the impacts and affects areas of the Project with areas currently used by the MNO for hunting large game, non-commercial fishing and gathering of plant material. An impacted area of the Project represents an area where a predicted Project effect is expected to alter the ability of traditional land use to be practiced (i.e. effects on access) versus an affected area where the effect will not influence the ability of indigenous communities to practice traditional land use (i.e. the effect of the WRSA being visible from Thunder Lake). A summary of the overlap is provided in Table 3.6.2-1.

**Table 3.6.2-1: Confirmed Areas of Current Use of Lands and Resources for Traditional Purposes**

| Traditional Land or Resource Use | Overlaps with Goliath Gold Project | |
|---|---|---|
| | Impacted Area [1] | Affected Area [2] |
| Small Game Hunting | × | × |
| **Large Game Hunting** | ✓ | ✓ |
| Trapping | × | × |
| Commercial Fishing | × | × |
| **Non-Commercial Fishing** | × | ✓ |
| **Plant Harvesting** | ✓ | ✓ |
| Overnight Stay Sites | × | × |
| Traditional Ecological Knowledge Sites | × | × |
| Métis Cultural Practice Sites/Routes | × | × |
| **Notes** | | |
| [1] An Impacted Area corresponds to an area of effects that would in turn have an effect on the ability to continue to practice traditional land and resource use. Refer to HHERA Figure 3.6.3-1. | | |
| [2]An Affected Area corresponds to an area of effects that would NOT have an effect on the ability to continue to practice traditional land and resource use. Refer to HHERA Figure 3.6.3-1. | | |

On October 10, 2018 Treasury Metals had a meeting with the MNO Consultation Committee who were clear in stating that the results presented in the TKLUS were just a snapshot of their community and although specific areas of country foods harvesting were identified confidentially, all areas are suitable for their members. Treasury Metals communicated to the MNO consultation committee that both the 2018 HHERA Report and revised EIS (April 2018) have conservatively assumed that all areas where the Project was predicted to have an effect, would in turn have an effect on current use of land and resources for traditional purposes (including country foods) and thus require mitigation measures. As such, the approach applied in the HHERA Report that all areas outside of the Operations Area may be used for traditional land and resource use during the active phases of the Project, and all areas including the Operations Area may be used for traditional land and resource use following closure of the Project, remains appropriate.

### 3.6.2.1 Access and Traditional Land and Resource Use

For safety purposes, access to Study Area No. 1 the Operations Area will be restricted to only employees of Treasury Metals during the active phases of the Project (i.e., Site Preparation and Construction, Operations, and Closure) and no country foods will be harvested from the Operations Area during these Project Phases. Country foods harvesting may resume at Study Area No. 1 the Operations Area during the Post-Closure phase of the Project. Although restricting access to human receptors within the Operations Area is a reasonable administrative control for public safety, restricting access to mobile animals such as birds (e.g., grouse and duck) and small mammals (e.g., rabbit) may not be feasible or 100% effective. Thus, these ecological receptors (and country food items) may be exposed to Project-specific media within the Operations Area and then consumed either by larger predatory species or human receptors off-site. Therefore, an assumption was made that 5% of the country foods consumed by human receptors in Study Areas No. 2 and 3 may come from the Operations Area during the Site Preparation and Construction, Operations, and Closure phases of the Project. Moose were the only exception, as given the low numbers

of moose present in the regional study area, the administrative controls and physically barriers in place to restrict access, moose (like residents and visitors) will not have access to the Operations Area during the active phases of the Project.

As part of the Round 2 process, Treasury Metals had additional opportunity to engage with the Indigenous communities and explain in more detail to them and their consultants that the approach taken in the revised EIS (April 2018) assumed that anywhere where an effect was predicted from the Project was assumed to result in an effect on traditional land and resource use (including access and on the land experience). Initially this included areas of direct habitat loss due to the operations area or areas overprinted by the Project, areas where air quality was greater than the health-based criteria, and areas where noise levels were predicted to cause a disturbance to wildlife. As part of the Round 2 process, the Agency in TMI_940-AC(2)-07 asked that areas were the Project resulted in an effect on access, also be considered an impact and lost for traditional land and reduce use. Although the HHERA assumed that all areas outside of the Operations Area would be available for continued traditional land and resource use, the other technical disciplines have conservatively assumed that anywhere where the Project results in impacts including access, traditional land and resource use will be lost and the significance of that loss assessed as per the EIS guidelines for the Project (refer to TMI_940-AC(2)-07_Table 1 and TMI_940-AC(2)-07_Table 2).

A number of requests were made by the Agency and their reviews regarding the potential implications on human health as a result of air quality in areas within the Property Boundary. As described in the quantitative risk assessment of criterial air contaminants in Section 3.5 above, concentrations of all CACs modelled in the LSA (including areas within the Property Boundary) and the Village of Wabigoon were below their criteria protective of human health, and the potential risk associated with exposure to DPM was determined to be essentially negligible. Therefore, health risks to residents or visitors/ harvesters who may practice traditional land and resource use are considered essentially negligible. No residual adverse effects were identified. Although the results of the HHERA do not indicate that risk management or mitigation measures are required during traditional land and resource use, as part of the sign in and access policy, Treasury Metals will offer appropriate personal protective equipment to those who prefer to wear it while within the Property Boundary.

Treasury Metals recognizes that the perception of risk, safety and well-being is a concern to members of Indigenous communities and has proposed to work with each community to develop a risk communication plan to help mitigate the perceptions of risk, safety and well-being associated with the Goliath Gold Project.

#### 3.6.2.2 Traditional Knowledge and Land Use Details Shared

Details of baseline traditional land use, and traditional knowledge is provided in Section 5 of the revised EIS (April 2018), and was relied upon for assessing the effects of the Project in Section 6 of the revised EIS (April 2018). A non-exhaustive list has been provided herein that specifically related to the county foods assessment:

- Fishing continues to be a critical activity year-round, with pike and walleye being the preferred species, but other species taken as well;
- Baitfish and minnow trapping conducted within the local area – 2 locations identified within Project area but outside Project footprint.

- Wabigoon Residents use wells for drinking water, and lakeshore Residents use Wabigoon Lake and Thunder lake for drinking water.
- Fishing supports tourism and businesses in the area providing fishing and guiding experiences.
- Harvesting plants and trapping in proximity to the Project.
- Gathering activities occur north of Project area and directly south of Tree Nursery harvesting of blueberries and mushrooms (chanterelles and morels).
- Historically trapping for marten occurred within the proposed development area. (Property Boundary).
- Wild rice occurs in the Blackwater Creek mouth area.
- Wild rice identified as a VC and aspect of historical harvest within ELFN lands, and wild rice continues to be harvested along Wabigoon Lake and the Wabigoon River system.
- The lake down Sioux Lookout highway where Eagle Lake members go rice picking/duck hunting, people from ELFN have brought their families there for 100 years.
- Blueberry picking within area of proposed TSF.
- Identified wild rice is important for community economic development and that wild rice grows in Thunder Creek and Blackwater Creek.
- Chanterelles are located throughout the area and have high economic value.
- Historically, and while the tree nursery was in operation, the community used to have open access to the site for land use. During the tree nursery operation access to hunting trails and the rest of the site was available 5 days a week.
- Hunting trails and roads throughout the project area.
- Plant harvesting, including blueberries, stump mushrooms, chanterelles, medicinal plants and other berries. Low bush cranberries, snowbush berry, Labrador Tea, low bush hemlock/ground hemlock are known medicines in the area.
- Trapping (Aboriginal community members from Eagle Lake First Nation and Wabigoon Lake Ojibway Nation hold the trapline licenses for the three trapline areas which are directly affected by the Project).
- A historical interest in the harvest of wild rice from Rice Lake.
- Moose and deer are target species of harvest, low moose numbers around community have forced community members to regional area to harvest.
- Project area is a fly through area for migratory birds that may be impacted by the Project.
- Migratory bird nesting area located to the north of the site.

- Blueberry areas attract robins and other birds.
- Soils are sandy northeast of Thunder Lake, including the proposed location for the tailings storage facility.
- Blueberries grow in sand areas and are known to move, the entire area should be identified as blueberry habitat.
- Their diet is comprised of fish, moose, deer.
- Wabigoon Lake First Nation and Whitefish Bay First Nations have fishing licenses on Thunder and Wabigoon Lake.
- Although berry patches can change from time to time, there are often established areas for gathering which reoccur annually.
- Members of the Métis Nation of Ontario have verbally indicated that members of this Indigenous community come from Atikokan and Fort Frances to fish, harvest, and hunt moose.
- Members of the Métis Nation of Ontario have verbally indicated that they harvest berries other than blueberries and that blueberries are located within the Dryden Forest.
- Blueberries, chanterelle mushrooms and wild rice do not constitute the entirety of plant species harvested.
- They do not harvest blueberries from consistent locales and that blueberries can be available at locales for longer than 4-6 years, at times as long as an MNO citizen's lifetime.
- Preliminary results from the TKLUS with have indicated that harvesting activities for large and small game species occurs in proximity of the Project.
- Vegetation potentially collected within region include: blueberries, raspberries, pin cherries, wild cranberries, and chanterelle mushrooms.
- Wild rice is a commercial and agricultural venture for the public and First Nation groups within the RSA.
- Game species potentially hunted within the region include: moose, deer, grouse, and waterfowl.
- Fur bearing species identified within the RSA include: beaver, muskrat, marten, fisher, otter, fox, lynx, and rabbit.
- Game species potentially hunted within the region include: moose, deer, grouse, and waterfowl.

### 3.6.3 Chemical Concentrations in Country Foods

Contaminants of concern were identified in waste rock, surface water, and TSF supernatant water. Where COCs were selected, EPCs were modelled into country foods for all three Study Areas and all Assessment

Scenarios. Concentrations of COCs were modeled from their source media into country foods via the concentration in source media multiplied by an uptake factors (bioaccumulation factors or transfer coefficients/factors), with consideration given to receptor specific inputs required such as ingestion rates and wet:dry conversion factors. The chemical concentration of all 14 COCs were modelled into the country foods from all media sources regardless of if there was a criteria exceedance in that media type. Full details of the modeling of COC concentrations into country foods is provided in Appendix II- Supplemental Information for the HHRA of Country Foods for the Goliath Gold Project. A sample calculation is also provided for each country food, in Appendix II.

As stated above, for safety purposes, access to Study Area No. 1 the Operations Area will be restricted to only employees of Treasury Metals during the active phases of the Project (i.e., Site Preparation and Construction, Operations, and Closure) and no country foods will be harvested from the Operations Area during these Project Phases. Country foods harvesting may resume at Study Area No. 1 the Operations Area during the Post-Closure phase of the Project. Although restricting access to human receptors within the Operations Area is a reasonable administrative control for public safety, restricting access to mobile animals such as birds (e.g., grouse and duck) and small mammals (e.g., rabbit) may not be feasible or 100% effective. Moose were not assumed to have access to the Operations Area. Thus, all mammal and bird ecological receptors (and country food items) with the exception of moose may be exposed to Project-specific media within the Operations Area and then consumed either by larger predatory species or human receptors off-site. Therefore, an assumption was made that 5% of the country foods consumed by human receptors in Study Areas No. 2 and 3 may come from the Operations Area during the Site Preparation and Construction, Operations, and Closure phases of the Project. Sample calculations are provided in Appendix II - Supplemental Information for the HHRA of Country Foods for the Goliath Gold Project to the HHERA Report.

The country foods assessment was considered as an exposure pathway in the HHRA (Section 4) and was assessed for all Project Phases, Assessment Scenarios and human receptors with the exception of a Project Worker. A Resident may be conservatively protective of a Project Worker given that Project Workers may also be Residents of the LSA or the Village of Wabigoon.

The dose and risk calculations presented in the body of the HHRA (Section 4) are entirely based on modelled country foods concentrations.

The following of country foods were selected for the country foods assessment based on Treasury Metals' understanding of the current use of the land and resources for traditional purposes:

**Invertebrates**

- Soil invertebrate (considered as a pathway within country foods rather than a food).

**Plants**

- Forage (considered as a pathway within country foods rather than a food);
- Root Vegetables;
- Berries (assumed to include raspberry- *Rubus strigosus*, blueberry-*Vaccinium angustifolium*, and/or strawberry *Fragaria virginiana*);

- Macrophytes including Wild Rice (*Zizania palustris)*; and
- Medicinal Plants including Labrador Tea (*Ledum groenlandicum*).

**Meat (Wild Game)**

- Moose (*Acles acles*);
- Ruffled Grouse (*Bonasa umbellus)*;
- Mallard Duck (*Anas plartyrhynchos*); and
- Snowshoe Hare (*Lepus americanus*).

**Fish**

- Measured fish (Walleye- *Sander vitreus* and Sauger- *Sander canadensis*); and
- Modelled fish (assumed to be Walleye- *Sander vitreus* and Sauger- *Sander canadensis*).

The following list describes the COCs identified in environmental and Project-specific media, and therefore were considered as part of the country foods assessment:

- Aluminum;
- Antimony;
- Arsenic;
- Cadmium;
- Cobalt;
- Copper;
- Cyanide;
- Lead;
- Mercury;
- Methylmercury;
- Silver;
- Thallium;
- Uranium; and
- Zinc.

The modelled EPCs of COCs in country foods at the three Study Areas for the Base Case Assessment Scenario, Project Alone Assessment Scenario, and Project Assessment Scenario are provided in Appendix IV - Model Inputs.

The chemical concentrations measured or modelled in country foods for the Base Case, Project Alone, and Project Assessment Scenarios for all three Study Areas are carried forward into the Problem Formulation, Toxicity Assessment, Exposure Assessment and Risk Characterization components of the HHRA as described in Section 4 of the HHERA report as per the requirements of Health Canada's 2018 Guidance on the Assessment of Country Foods.

The modelled chemical concentrations in many of the country food items were also used in the screening level ecological risk assessment provided in Section 5 of the HHERA report.

#### 3.6.3.1 "Measured Fish" versus "Modelled Fish" Concentration Data in the HHERA

The chemical concentrations in "measured fish" were collected as part of the baseline fisheries studies completed in support of the EIS as described in Section 5 of the EIS (April 2018). Fish capture efforts on Wabigoon Lake were completed in Keplyn's Bay on September 5th and 6th, 2012. A total of 28 Walleye and one Sauger were caught by angling, only two walleye were captured among all attempts and netting was abandoned to avoid unnecessary lethal harvest of non-target species. All 31 fish were retained for tissue sampling and ageing. The youngest Walleye were two years old and their length and weights ranged between 230 mm to 272 mm, and 84 g to 125g respectively. The oldest and largest individual was 10 years old, had a total length of 564 mm and weighed 1.9 kg. The Sauger was 10 years old and had a total length of 255 mm and weighed 106 g. Mercury results for the largest and smallest fish by weight in the sample were 0.245 mg/kg and 0.114 mg/kg respectively. Mercury levels ranged from a low of 0.0865 mg/kg to a high of 0.473 mg/kg resulting in a 95$^{th}$ UCLM concentration of 0.225 mg/kg. It is well understood among the scientific and risk assessment community that the proportion of mercury in fish is usually >95% methylmercury. As such, it is reasonable to infer that the methylmercury concentration in "measured fish" tissue collected and analyzed in the existing environment for Base Case Assessment Scenario is 0.225 mg/kg. The raw data for the measured fish in provided in Table I-22 of Appendix I.

Chemical concentration in "modelled fish" were derived from surface water concentrations by applying literature derived uptake factors. Model inputs are provided in Appendix IV of the HHERA report. Table IV-19 and IV-22 of Appendix IV provide the chemical concentrations of "modelled fish" and the uptake factors used to calculate the values, respectively. The surface water to fish bioconcentration factors for mercury and methylmercury relied on in the modelling of "modelled fish" concentrations were $1 \times 10^3$ and $1 \times 10^6$, respectively, reflecting that both the US EPA and Environment Canada report these as typical and that methylmercury uptake is known for being 100-1000 times greater than mercury. The 95$^{th}$ UCLM methylmercury concentration modelled for the existing environment for the Base Case Assessment Scenario was an order of magnitude higher than measured in the "measured fish" in the existing environment at 2.07 mg/kg. Therefore, the use of modelled methylmercury data for fish in the HHERA report will overestimate potential risk. It is also important however to highlight that none of the 114 surface water samples collected in the existing environment had mercury concentrations greater than their analytical detection limit, and no water samples were analyzed specifically for methylmercury (See TMI_957-HHRA(2)-04_Attachment 2). The mercury concentrations in surface water were set to the analytical detection limits which ranged from 0.0001 mg/L to 0.00001 mg/L. Reliance on analytical detection limits in the HHERA will overestimate potential risk. Given that the dataset relied upon in estimating "modelled fish" concentrations represented an overestimate of mercury and methylmercury concentrations in surface water and that the direct comparison of "modelled fish" to "measured fish" of 2.07 mg/kg vs. 0.225 mg/kg, respectively demonstrates that the modelled fish concentrations are artificially greater than measured fish concentrations, the assessment of methylmercury in fish provided herein represents an overestimate of potential risk and a source of uncertainty that must be addressed as part of the follow up program. The follow up program for human health including for surface water quality, and fish and fish habitat are provided in the Final Goliath Gold Project Follow Up Program Addendum.

In earlier draft versions of the HHERA, the "measured fish" concentrations collected as part of the baseline program for fish and fish habitat (see Section 5 of the revised EIS [April 2018]) were applied for the Base Case Scenario. However, the application of "measured fish" in the Base Case Assessment Scenario, and "modelled fish" in the Project Alone and Project Assessment Scenario resulted in inconsistencies in the

hazard quotient results that would artificially lead to the conclusion that the Goliath Gold Project was having a residual adverse effect, when in fact it was a result of simple arithmetic highlighting the level of uncertainty added when literature-derived uptake factors are applied. At the request of the Agency, the January (Round 2) submission of the HHERA has been revised to present all chemical concentrations, exposure doses, and risk calculations using "modelled fish" for all assessment scenarios including Base Case. As described in detail in the paragraph above, this approach will result in an over estimate of potential risk to mercury and methylmercury in the existing environment (i.e. Base Case Assessment Scenario) and a risk communication plan will be required to mitigate perception of risk in the existing environment. Treasury Metals has provided a summary of the residual adverse effects following the previous approach (i.e. "measured fish" in the Base Case Assessment Scenario and "modelled fish" in the Project Alone and Project Assessment Scenarios) to Appendix VII of the HHERA report.

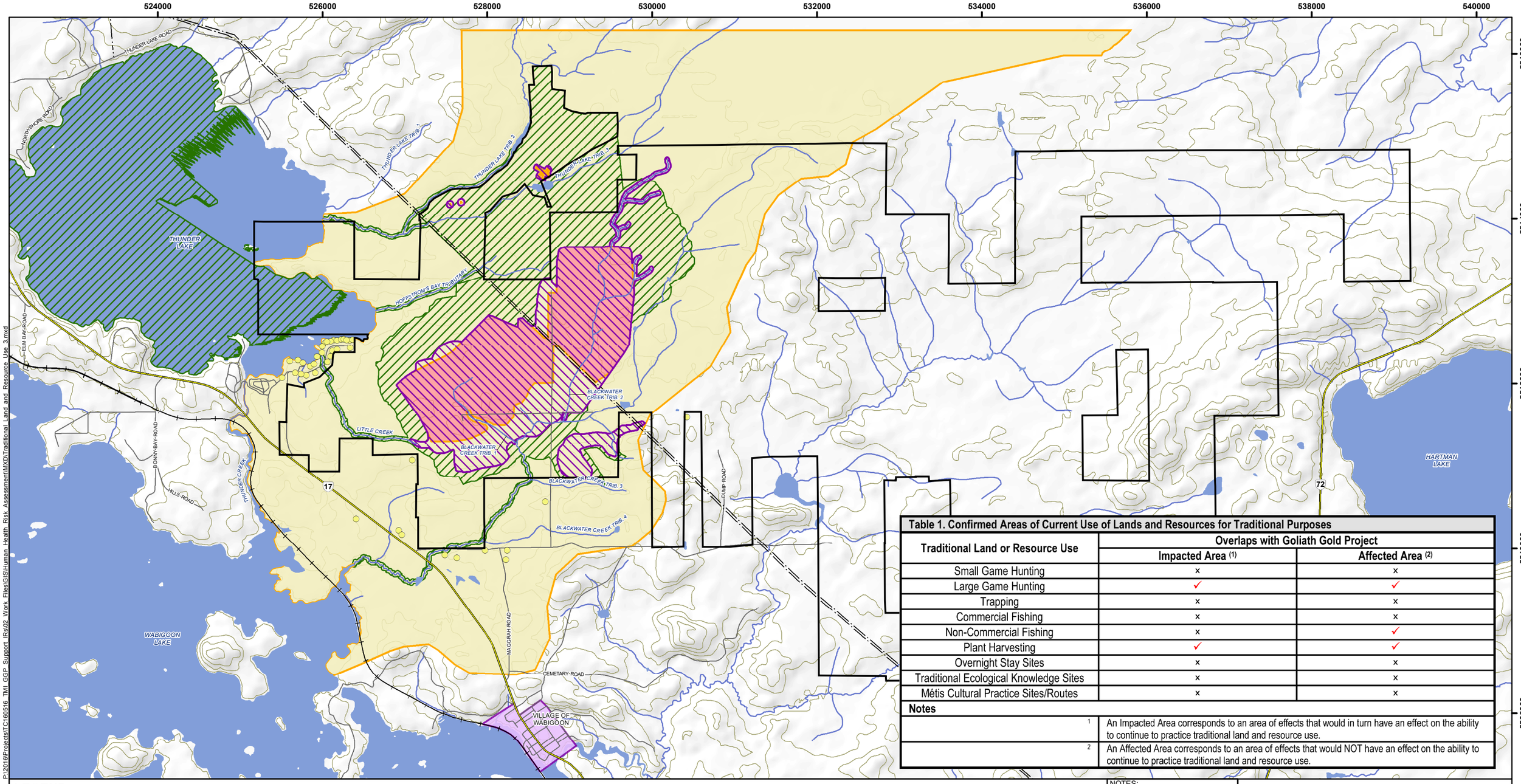



**Table 1. Confirmed Areas of Current Use of Lands and Resources for Traditional Purposes**

| Traditional Land or Resource Use | Overlaps with Goliath Gold Project | |
|---|---|---|
| | Impacted Area (1) | Affected Area (2) |
| Small Game Hunting | × | × |
| Large Game Hunting | ✓ | ✓ |
| Trapping | × | × |
| Commercial Fishing | × | × |
| Non-Commercial Fishing | × | ✓ |
| Plant Harvesting | ✓ | ✓ |
| Overnight Stay Sites | × | × |
| Traditional Ecological Knowledge Sites | × | × |
| Métis Cultural Practice Sites/Routes | × | × |

**Notes**

1. An Impacted Area corresponds to an area of effects that would in turn have an effect on the ability to continue to practice traditional land and resource use.
2. An Affected Area corresponds to an area of effects that would NOT have an effect on the ability to continue to practice traditional land and resource use.

**LEGEND**

- Sensitive Receptors
- Property Boundary
- Combined Impact Footprint
- Combined Affected Areas
- Highway
- Local Street
- Hydro Line

**Human Health and Ecological Risk Assessment Study Areas**

- 1. Operations Area
- 2. Local Study Area
- 3. Village of Wabigoon

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Topographic data extracted from Land Information Ontario (LIO), MNRF.
- Watercourses represent pre-development conditions based on LIO database, as modified by KBM.

Datum: NAD83
Projection: UTM Zone 15N

TREASURY wood. METALS Inc.

**GOLIATH GOLD PROJECT**

**Spatial Extent of Effects on Traditional Land and Resource Use Including Country Foods**

PROJECT N°: TC160516 | **FIGURE: 3.6.2-1**

SCALE: 1:44,000 | DATE: November 2018

P:\2016\Projects\TC160516_TMI_GGP_Support_IRs\02_Work_Files\GIS\Human_Health_Risk_Assessment\MXD\Traditional_Land_and_Resource_Use_3.mxd

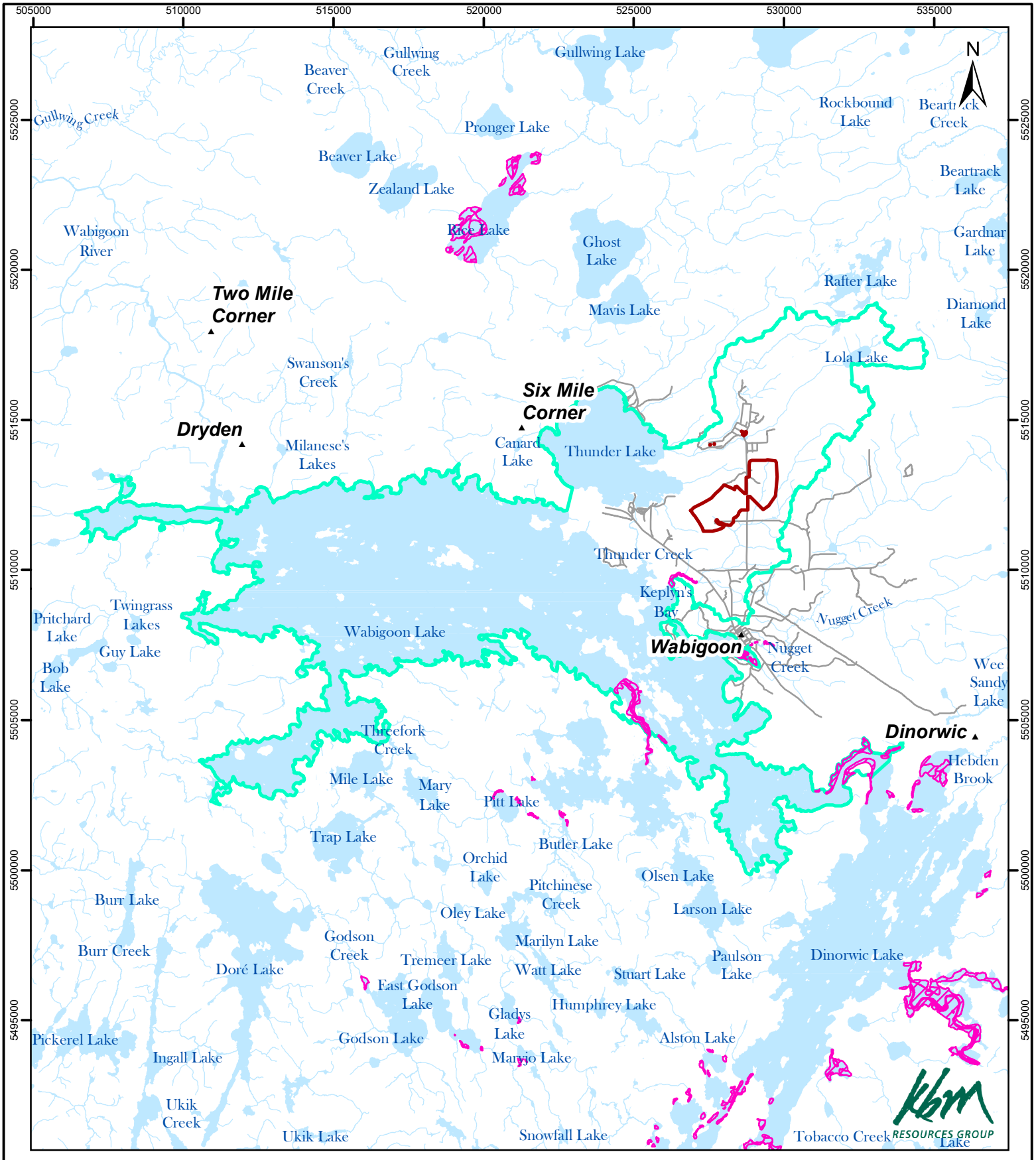



**Figure 3.6.2-2: Known Wild Rice Harvesting Areas**

Projection: NAD 1983 UTM Zone 15N

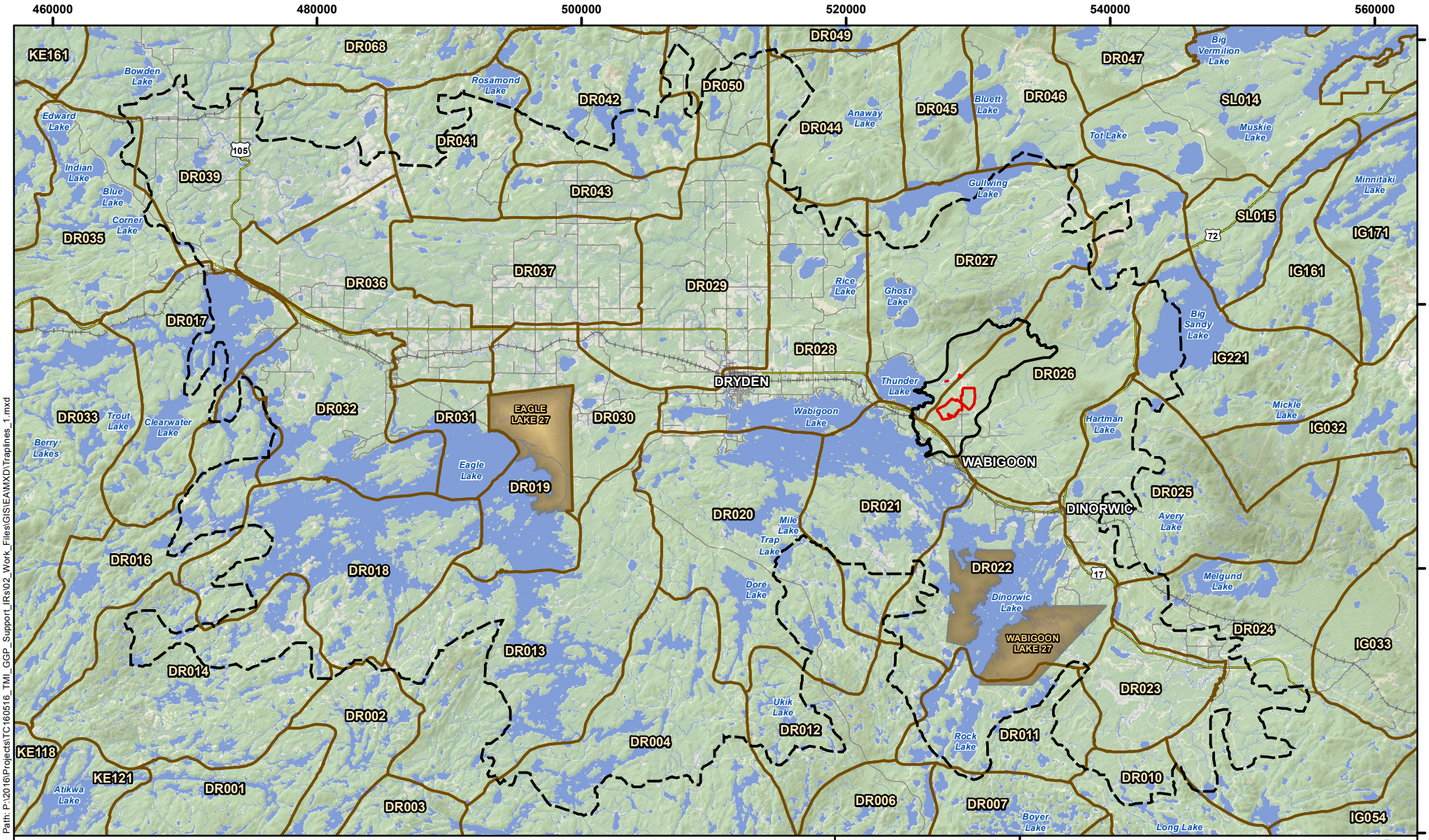
Date created: 2018-03-15

Legend

- Wild Rice LSA
- Wild Rice Stand
- Development Footprint
- Waterbody
- Road
- Stream

SCALE: 1:166,984

0 1 2 4 6 8 Km




Path: P:\2016\Projects\TC160516_TML_GGP_Support_IRs\02_Work_Files\GIS\EAMXD\Traplines_1.mxd

## LEGEND

- Operations Area
- Local Study Area for Terrestrial Resources
- Regional Study Area for Terrestrial Resources
- Trapline Area Boundary (Labelled with ID)
- First Nation Reserves
- Canadian Pacific Railway
- Highway
- Local Road

0 10 20 30 40 50 Kilometres

NOTES:
- Topographic data extracted from Land Information Ontario, MNRF.
- Wildlife Management Units extracted from Land Information Ontario, MNRF.

Datum & Projection: NAD 1983 UTM Zone 15N

N W E S

TREASURY METALS Inc.

amec foster wheeler

# GOLIATH GOLD PROJECT

## Registered Traplines

| | |
|---|---|
| PROJECT N°: TC160516 | **FIGURE: 3.6.2-3** |
| SCALE: 1:400,000 | DATE: April 2018 |

## 3.7 Goliath Gold HHERA Model

Wood Environment and Infrastructure Solutions (Wood) was retained by Treasury Metals to complete the HHERA in support of the Round 2 information request process and the revised EIS (April 2018) for the Goliath Gold Project for submission to the Agency. To support the interpretation of the large data set, all data were organized into an HHERA model referred to as the Goliath Gold Project HHERA Model specifically designed by Wood for use on the Goliath Gold Project. The model was designed to allow for the COC selection process and modelling of country foods as described in the Sections above. The model allowed for a systematic quantitative interpretation of the data for all Assessment Scenarios (i.e., Base Case, Project Alone Case, and Project Case), all Project Phases (i.e., Site Preparation and Construction, Operations, Closure, and Post-Closure), at each of the three Study Areas (i.e., Study Area No. 1, 2 and 3).

The model was driven by the following key assumptions (provided in Table 3.7-1) with respect to dominant source of exposure media (i.e., environmental or Project-specific media) in the terrestrial and aquatic environment for both the HHRA (including country foods assessment) and the ERA. The only exception to this is that wild rice (i.e., macrophytes), moose and fish (i.e., modelled fish) concentrations were predicted based on uptake from surface water rather than TSF supernatant water as under no circumstances will wild rice grow in the TSF, be accessible to large mammals, or fish inhabit the TSF, therefore eliminating the TSF as an operable pathway of exposure for these three country foods.

Exposure equations for both the HHRA and ERA were those defined by Health Canada or the CCME FCSAP guidance, respectively. All receptor and exposure scenario characteristics and well exposure equations are clearly defined in their respective risk assessment sub sections.

All model inputs and outputs are provided in Appendices IV and V, respectively.

**Table 3.7-1: Source Media Assumptions**

| Study Area | Study Area No. 1 (Operations Area) | | | | | | | | | No. 2 (LSA) & No. 3 (Village of Wabigoon) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | | Project Alone | | | | Project | | | | | Project Alone | | | | | Project | | |
| Phase | Base Case | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure | Base Case | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Terrestrial Environment | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Aquatic Environment | Water (wet) | Water (wet) | Water (supernatant) | Water (wet) | Water (pit-lake wet) | Water (wet) | Water (supernatant) | Water (wet) | Water (pit-lake wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) |

**NOTES:**

Shaded — Project-Specific Media

# 4.0 Human Health Risk Assessment

A risk assessment is a process used to assess the potential risk to human receptors resulting from one or more environmental stressors. In so doing, the risk assessment takes into account the concentrations of the chemicals to be evaluated, their toxicity and the manner in which receptors may be exposed.

The objective of the HHRA is to assess potential human health risks associated with the identified COCs all three Study Areas, all Assessment Scenarios, and associated with each Project phase. Potential health risks to human receptors will be determined by completing a qualitative or quantitative assessment using site-specific conditions, where available, and generic assumptions provided by Health Canada or MECP.

The HHRA will be conducted according to industry accepted risk assessment practices and methodologies and will follow guidance published and endorsed by government agencies. This approach is consistent with previous projects in Ontario that have been reviewed by the Agency. The following guidance documents will be relied upon in the HHRA:

- Part I: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA) Version 2.0 (Health Canada 2012a);
- Part II: Health Canada Toxicological Reference Values (TRVs) and Chemical-Specific Factors Version 2.0 (Health Canada 2010a);
- Part V: Guidance on Human Health Detailed Quantitative Risk Assessment For Chemicals ($DQRA_{CHEM}$) (Health Canada 2010b);
- Supplemental Guidance on Human Health Risk Assessment for Country Foods ($HHRA_{Foods}$) (Health Canada, 2010c);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality (Health Canada 2016);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality (Health Canada 2016);
- Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods (Health Canada 2018);
- Procedures for the Use of Risk Assessment under Part XV.1 of the Environmental Protection Act (MECP 2005);
- Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario (MECP 2011a); and
- Guidance on Human Health Risk Assessment for Environmental Impact Assessment in Alberta (Alberta Health and Wellness 2011).

## 4.1 Problem Formulation

The problem formulation step is used to identify how COCs might adversely impact human health. It allows the definition of boundaries for the HHRA based on scientific rationale. Problem formulation provides the framework and methodology for the risk assessment and consists of identifying the relevant components of the risk assessment. These components include identifying and characterizing relevant human receptor groups; and, identifying all operable exposure pathways based on the COCs and environmental transport mechanisms, and supplemental screening of the COCs that are relevant specifically to human health via the operable pathways.

Where exposure pathways can be reasonably assumed to be complete, a more detailed examination of potential risks is conducted via qualitative and quantitative approaches. A qualitative supplemental screening of all COCs is completed where chemical concentrations are compared to component values specific to human health. Chemical concentrations that do not exceed their respective human health component value are qualitatively considered to present a negligible amount of potential risk. For concentrations that exceed their respective human health component value, they are carried forward for a quantitative assessment of potential risk. The detailed quantitative assessment involves the remaining steps of the HHRA framework including the exposure assessment, toxicity assessment, and risk characterization.

Receptors included the assessment are conservatively considered to include all human rectors defined by Health Canada (i.e., infant, toddler, child, teen, and adults) adults who may be Workers, Residents, or Visitors/Harvesters. All receptors are assumed to be both members of Indigenous communities and members of the general public as per the valued components used in the assessment of Project effects as described in the EIS (April 2018).

### 4.1.1 Identification and Characterization of Potential Human Receptors

Based on the proposed Project, and Treasury Metals' understanding of the current use of the lands and resources for traditional purposes, receptors for each Study Area include:

**Study Area No. 1: Operations Area**

The Operations Area includes all of the active mining areas associated with the Project. During the active life of the Project access to the Operations Area will be restricted for safety and security reasons. Only employees of Treasury Metals will be allowed within the Operations Area. There will be no access to the Operations Area by members of the public or Indigenous communities during the active life of the Project. There will be no harvesting of country foods within the Operations Area for the active phases of the Project, and there are no sensitive or community-based receptors within the Operations Area. Following Closure, during the passive Post-Closure phase of the Project, full access to the Operations Area will resume as will the practice of traditional land and resource use.

- **Project Workers** — A Project Worker is assumed to be an adult who may be an Indoor Worker, Outdoor Worker, or Construction/Subsurface Worker, hereafter collectively referred to as a Project Worker. Project Workers are considered to be members of the general public as well as members of Indigenous communities. Project Workers in Study Area No. 1 may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion)

with soil and surface water. Exposure to Project-specific media is assessed for a Project Worker. Project Workers in Study Area No. 1 are assessed for Site Preparations and Construction, Operations, Closure and Post-Closure phases of the Project Alone and Project Assessment Scenarios. Project Workers are not considered for the ingestion of country foods pathway as per Health Canada PQRA guidance.

- **Residents —** Post-Closure and following the expiration of institutional controls, Study Area No. 1 may potentially be used for Residential purposes and traditional use of land and resource may occur. Residents include members of the public and members of Indigenous communities who are considered to inhabit areas within the Operations Area on a permanent basis and use the lands and resources within this Study Area for traditional purposes. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Residents are conservatively assumed to be Indigenous community members. These receptors may also access the pit-lake during Post-Closure. Resident receptors are considered all age groups, i.e., infants, toddlers, children, teenagers, and adults. Residents in the Operations Area Post-Closure may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion) with soil, exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested within the Operations Area, as well as Study Areas No. 2 and 3. Residents in Study Area No. 1 are assessed for Project Alone, and Project Assessment Scenarios for Post-Closure only.

- **Visitors/Harvesters —** Post-Closure and following the expiration of institutional controls, Study Area No. 1 may potentially be used for traditional use of land and resources. Visitors/ Harvesters include members of the public and members of Indigenous communities who practice the use of lands and resources for traditional purposes on areas within the Operations Area following the completion of the Closure phase of the Project. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Visitors/Harvesters are conservatively assumed to be Indigenous community members. It is Treasury Metals' understanding that Aboriginal peoples are entitled to access to their lands according to their Aboriginal and Treaty #3 (1873) Rights, and Treasury Metals is committed to working with the Indigenous communities to ensure that the effects of the Project on their traditional land and resource use, or alternatively referred to as Aboriginal and Treaty Rights, are appropriately considered and protected. For security and public safety reasons, access to all of Study Area No. 1 will be restricted during the Site Preparation and Construction, Operations, and Closure will be restricted to all human receptors expect Project Workers. Following Closure of the Project, Visitors/Harvesters will regain access to the Operations Area and once again practice traditional land and resource use including hunting, fishing, trapping, gathering/harvesting and spiritual practices. Visitor/Harvester receptors are considered all age groups, i.e., infants, toddlers, children, teenagers, and adults. Visitors/ Harvesters in Study Area No. 1 may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion) with soil, exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested within all three Study Areas. Visitors/ Harvesters in Study Area No. 2 are assessed for Base Case, Project Alone, and Project Assessment Scenarios.

**Study Area No. 2: Local Study Area**

The LSA was considered in the HHERA to assess potential human health risks as a result of the Project to human receptors who live or may practice traditional land and resource use in areas outside of the Operations Area but within the Property Boundary.

- **Residents —** Residents include members of the public and members of Indigenous communities who are considered to inhabit areas within the Study Area No. 2 on a permanent basis and use the lands and resources within this Study Area for traditional purposes. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Residents are conservatively assumed to be Indigenous community members. Resident receptors are considered all age groups, (i.e., infants, toddlers, children, teenagers, and adults. Residents in Study Area No. 2 may be exposed to COCs via the inhalation of fugitive dust, direct contact (dermal contact and ingestion) with soil, exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested from Study Areas 2 and 3 including 5% which may travel from Study Area. No. 1.

- **Visitors/Harvesters —**Visitors/ Harvesters include members of the public and members of Indigenous communities who traditional land and resource use on areas outside of the Operations Area but on lands in the vicinity of the Project. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Visitors/Harvesters are conservatively assumed to be Indigenous community members. It is Treasury Metals' understanding that Aboriginal peoples are entitled to access to their lands according to their Aboriginal and Treaty #3 (1873) Rights, and Treasury Metals is committed to working with the Indigenous communities to ensure that the effects of the Project on their traditional land and resource use, or alternatively referred to as Aboriginal and Treaty Rights, are appropriately considered and protected. Visitor/Harvester receptors are considered all age groups, i.e., infants, toddlers, children, teenagers, and adults. Visitors/ Harvesters in Study Area No. 2 may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion) with soil, exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested from Study Areas 2 and 3 including 5% which may travel from Study Area. No. 1. Visitors/ Harvesters in Study Area No. 2 are assessed for Base Case, Project Alone, and Project Assessment Scenarios.

**Study Area No. 3: The Village of Wabigoon**

The Village of Wabigoon was considered in the HHERA to assess potential human health risks as a result of the Project to human receptors in the community nearest to the Project. Residents and Visitors/Harvesters in the Village of Wabigoon have the same operable exposure pathways as Resident and Visitors/Harvesters in Study Area No. 2. (i.e. inhalation, direct contact with soil and water, and ingestion of country foods).

- **Residents —** Residents include members of the public and members of Indigenous communities who are considered to inhabit areas within the Village of Wabigoon on a permanent basis and use the lands and resources within this Study Area for traditional purposes. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Residents are conservatively assumed to be Indigenous community members. Resident receptors are considered all age groups, i.e., infants, toddlers, children, teenagers, and adults. Residents in the Village of Wabigoon may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion) with soil exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested from Study Areas 2 and 3 including 5%

which may travel from Study Area. No. 1. Residents in Study Area No. 3 are assessed for Base Case, Project Alone, and Project Assessment Scenarios.

- **Visitors/Harvesters —**Visitors/ Harvesters include members of the public and members of Indigenous communities who practice the use of lands and resources for traditional purposes on areas outside of the Operations Area but on lands in the vicinity of the Project, including in the Village of Wabigoon. Indigenous community members have higher rates of country foods ingestion than the general public, therefore all Visitors/Harvesters are conservatively assumed to be Indigenous community members. Visitor/Harvester receptors are considered all age groups, i.e., infants, toddlers, children, teenagers, and adults. Visitors/ Harvesters in Study Area No. 3 may be exposed to COCs via the inhalation of fugitive dust, inhalation of volatiles in air, direct contact (dermal contact and ingestion) with soil, exposure to surface water via recreational use and drinking water, and ingestion of country foods harvested from Study Areas 2 and 3 including 5% which may travel from Study Area. No. 1. Visitors/ Harvesters in Study Area No. 3 are assessed for Base Case, Project Alone, and Project Assessment Scenarios.

### 4.1.2 Identification of Exposure Scenarios and Operable Pathways

The exposure assessment evaluates the likelihood that human receptors may come into contact with the COCs in environmental and Project-specific media. The likelihood of exposure is determined through consideration of the properties that control chemical mobility, and the various pathways through which the COC could be transported to contact the receptor, or through which the receptor could move to contact the COC. The exposure analysis also considers the possible mechanisms through which a COC can be introduced to a human receptor (i.e., ingestion, dermal contact, and inhalation).

Exposure pathways are used to describe how a substance could move from the impacted environmental; media (air, soil, and water) and Project-specific media (waste rock, TSF supernatant water, and pit-lake water) to a point where it can come in contact with a human receptor.

The potential exposure pathways for soil contaminants and their relevance at the Site are summarized in Table 4.1.2-1. Those complete hazard-exposure-receptor combinations considered to have the highest likelihood to contribute to human health risk are carried forward for further quantitative analysis.

**Table 4.1.2-1 Potential Exposure Scenarios - Human Receptors**

| Source Media | Exposure Pathway Description | Pathway Considered? | Assessment Required[1] | Justification |
|---|---|---|---|---|
| Air | Inhalation of CACs | Yes | Yes | Health Assessment was completed qualitatively in Section 3.5 of the HHERA |
| | Inhalation of inorganics (metals) in fugitive dust | Yes | No | No air COCs were identified. |
| | Inhalation of volatile COCs | Yes | No | No volatile air COCs identified |
| Soil | Ingestion | Yes | No | No soil COCs were identified |
| | Dermal Contact | | | |
| | Ingestion of County Foods | | | |
| | Vapour Intrusion | | | |
| Water | Dermal Contact (Recreational Use) | Yes | Yes | Assessed for Residents and Visitors/Harvesters at all Study Areas. |
| | Ingestion of Drinking Water | Yes | Yes | Assessed for Residents and Visitors/Harvesters at all Study Areas. |
| | Ingestion of Country Foods | Yes | Yes | Assessed for Residents and Visitors/Harvesters at all Study Areas. |
| Waste Rock | Ingestion | Yes | Yes | Assessed for Workers at Study Area No. 1 only |
| | Dermal Contact | Yes | Yes | Assessed for Workers at Study Area No. 1 only |
| | Ingestion of County Foods | Yes | Yes | Assessed for Residents and Visitors/Harvesters at Study Areas No. 1, 2 and 3. |
| | Vapour Intrusion | Yes | No | No volatile compounds were identified in waste rock |
| Ore/Tailings | Ingestion | Yes | No | Tailings will be submerged or encapsulated during all Project Phases. |
| | Dermal Contact | Yes | No | Tailings will be submerged or encapsulated during all Project Phases. |
| | Ingestion of County Foods | Yes | No | Tailings will be submerged or encapsulated during all Project Phases. |
| | Vapour Intrusion | Yes | No | No volatile compounds were identified in tailings |

**Table 4.1.2-1 Potential Exposure Scenarios - Human Receptors (continued)**

| Source Media | Exposure Pathway Description | Pathway Considered? | Assessment Required[1] | Justification |
|---|---|---|---|---|
| TSF Supernatant Water | Dermal Contact (Recreational Use) | No | Yes | Assessed for Workers at Study Area No. 1 only |
| | Ingestion of Drinking Water | No | Yes | Assessed for Workers at Study Area No. 1 only |
| | Ingestion of Country Foods | Yes | Yes | TSF supernatant water will be available for ingestion by birds and mammals which may ingested as country foods. |
| Pit-lake Water | Dermal Contact (Recreational Use) | Yes | Yes | Assessed for Residents and Visitors/Harvesters Post-Closure |
| | Ingestion of Drinking Water | Yes | Yes | |
| | Ingestion of Country Foods | Yes | Yes | |

| NOTES: | | |
|---|---|---|
| | [1] | Pathway considered in the determination of residual adverse effects via the sum of all operable exposure pathways. |

### 4.1.3 Supplemental COC Screening for Human Health

In Section 3.5 of the HHERA report, COCs were identified based on an exceedance of a regulatory criteria in environmental and/or Project-specific media. The supplemental screening process allows for the definition of COCs that are specific to human receptors. The following sub-sections describe the supplemental screening process specific for human receptors for all COCs in environmental and Project-specific media.

Regardless of an exceedance of the supplemental screening process, all 14 COCs and operable exposure pathways were also considered in the determination of residual adverse effects.

#### 4.1.3.1 Air

The qualitative and quantitative assessment of CACs in air was completed in Section 3.5.3.1. No further discussion is required.

Human receptors may be exposed to COCs via the inhalation of fugitive dust. None of the chemical parameters predicted in air (as fugitive dust) exceeded their respective screening criteria for any of the Assessment Scenarios or Study Areas. As such, no potential human health risks are anticipated via the inhalation of fugitive dust pathway. No further assessment of the inhalation of fugitive dust pathway is required as part of the HHRA, however the inhalation of fugitive dust is considered in Section 4.7 in the determination of residual adverse effects.

Dust deposition to overburden soil was modelled and assessed as part of the soil exposure pathways.

#### 4.1.3.2 Soil

Human receptors may be exposed to soil COCs via the following pathways:

- Direct dermal contact and incidental ingestion;
- Ingestion of drinking water impacted with chemicals that have leached from soil;
- Inhalation of air impacted with volatile soil COCs (soil vapour); and
- Ingestion of country foods impacted by soil COCs.

None of the chemical parameters measured or predicted in soil exceeded their respective screening criteria for any of the Assessment Scenarios or Study Areas. As such, no potential human health risks are identified via the qualitative assessment of risk. A quantitative assessment of these pathways is not required as part of the HHRA, however the direct soil contact pathway is considered in Section 4.7 in the determination of residual adverse effects.

#### 4.1.3.3 Surface Water

Human receptors may be exposed to water COCs via the following pathways:

- Ingestion of drinking water;

- Recreational uses; and
- Ingestion of country foods impacted by surface water COCs.

Several water COCs were identified as part of the COC selection process including:

- Aluminum;
- Cobalt;
- Methylmercury;
- Silver;
- Thallium; and
- Uranium

The EPC for each of the identified COCs was screened against:

- Health Canada (2012) - "Guidelines for Canadian Recreational Water Quality – Third Edition";
- Health Canada (2017) - "Guidelines for Canadian Drinking Water Quality"; and
- MECP (2011) - "Groundwater Components for Potable Water, Coarse Textured Soil (GW1- drinking water pathway)".

No Guidelines for Canada Recreational Water Quality were identified for the surface water COCs. Health Canada states that there is insufficient information to support the establishment of guideline values for recreational waters. For inorganic parameters, ingestion as drinking water is considered the primary pathway of exposure for inorganic chemical contaminants (i.e., exposure from use as a potable water source is greater than through recreational exposure). Therefore, screening to the water ingestion pathway is considered to also provide sufficient protection via the recreational use direct pathway.

The results of the supplemental COC screening for human health indicated that the chemical concentrations of all metals and methylmercury in surface water are below levels that would pose risk to human receptors via the ingestion of water as drinking water, and consequently via recreational use. The results of the supplemental screening for the protection of human health via the surface water exposure pathways is provided in Table 4.1.3-1 below. As such, no potential human health risks are identified via these COCs and quantitative assessment of these pathways is not required as part of the HHRA. However, direct contact with surface water is considered in Section 4.7 in the determination of residual adverse effects.

The concentration of aluminum in surface water for the Base Case and subsequently the Project Assessment Scenarios exceeds the Health Canada's Operational Guidance Value. Health Canada states that there is no consistent, convincing evidence that aluminum in drinking water causes adverse health effects in humans. Therefore, a health-based guideline or aesthetic objective has not been established for

aluminum in drinking water. As such, no potential risk to human health is identified to human receptors via exposure to aluminum in surface water is identified.

#### 4.1.3.4 Project Specific Media

As discussed in Section 3.5, Project-Specific Media, human receptors within the Operations area (Study Area No. 1) may be exposed via direct dermal contact and incidental ingestion, and inhalation of fugitive dust of metals in waste rock during the Operations phase of the Project. As defined in the exposure assessment, the tailings will be under water cover or encapsulated and therefore will not present an operable pathway of exposure. Supplemental screening is therefore limited to the COCs that exceeded their respective criteria in Waste Rock.

The MECP Soil Components for Table 2- Potable Water Scenario (MOECC Table 2 component values) for coarse textured soils were selected for COC screening and selection as part of the HHRA. An MECP component value is derived to provide a receptor or group of receptors protection from a contaminant via a specific pathway and were generally derived following CCME, US EPA, and or Health Canada risk assessment guidance. In the MECP "*Rationale for the Development of Soil and Groundwater Standards for Use at Contaminated Sites in Ontario*" (MECP 2011), it is explained that the components are derived based on a default source allocation factor of 0.2 for non-cancer effects. This means that 1/5$^{th}$ of the tolerable daily intake was allocated for the component values which is consistent with the most recent Health Canada DQRA approach. For chemicals considered to be carcinogenic (e.g., arsenic), a target cancer level of $1 \times 10^{-6}$ was allocated to each component value, which is more conservative than Health Canada cancer level of $1 \times 10^{-5}$. The MECP Table 2 Component values represent the current state of risk assessment science in Ontario and are therefore appropriate for use as part of a qualitative assessment of risk with respect to the Project.

The maximum concentrations of COCs in waste rock that exceeded their CCME SQG or MECP Site Condition Standard were further assessed herein against the most conservative MECP Table 2 Soil Components- Potable Water Scenario (Coarse -Textured Soil) for the following:

- S2-Commerical Direct soil contact- dermal contact and incidental ingestion- Long Term Worker (Indigenous and Non-Indigenous)
- S3-Commercial Direct soil contact- dermal contact, incidental ingestion, and inhalation of soil particulates- Short Term Construction/ Subsurface (Indigenous and Non-Indigenous)
- S-GW1- Residential Soil leaching to groundwater and migrating to a drinking water system- Toddler. The derivation of the S-GW1 component values assumes a Residential exposure scenario (i.e., 24 hours a day/7 days a week exposure scenario) so also conservatively protects Project Workers and Visitors and Harvesters (Indigenous and Non-Indigenous).

**Table 4.1.3.3-1: Human Health COC Supplemental Screening: Surface Water**

| Parameter | Base Case | Project Only | | | | Project | | | | Supplemental Screening Criteria (mg/L) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Recreational Water Quality[1] | Operational or Aesthetic Water Quality [2] | Human Health Water Quality [3] | MECP GW 1 Component[4] |
| **Aluminum** | **$6.22 \times 10^{-1}$** | 0 | 0.00 | 0 | 0.00 | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | Insufficient Data to Derive | **0.1*** | No Value | No Value |
| Cobalt | $1.72 \times 10^{-3}$ | 0 | 0.00 | 0 | 0.00 | $1.72 \times 10^{-3}$ | $1.54 \times 10^{-3}$ | $1.72 \times 10^{-3}$ | $1.58 \times 10^{-3}$ | Insufficient Data to Derive | No Value | No Value | 0.003 |
| Methylmercury | $8.29 \times 10^{-6}$ | 0 | $2.34 \times 10^{-10}$ | 0 | 0.00 | $8.29 \times 10^{-6}$ | $8.29 \times 10^{-6}$ | $8.29 \times 10^{-6}$ | $8.28 \times 10^{-6}$ | Insufficient Data to Derive | No Value | 0.001 | 0.0003 |
| Silver | $2.09 \times 10^{-4}$ | 0 | $2.71 \times 10^{-20}$ | 0 | 0.00 | $2.09 \times 10^{-4}$ | $2.09 \times 10^{-4}$ | $2.09 \times 10^{-4}$ | $2.09 \times 10^{-4}$ | Insufficient Data to Derive | No Value | No Value | 0.1 |
| Thallium | $6.28 \times 10^{-4}$ | 0 | $1.08 \times 10^{-19}$ | 0 | 0.00 | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | Insufficient Data to Derive | No Value | No Value | 0.002 |
| Uranium | $9.96 \times 10^{-3}$ | 0 | $1.73 \times 10^{-18}$ | 0 | 0.00 | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | Insufficient Data to Derive | No Value | 0.02 | 0.02 |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| * | Operational water quality guideline |
| 1 | Health Canada 2012. Guidelines for Canadian Recreational Water Quality Third Edition |
| 2 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Aesthetic Objectives (AO)) |
| 3 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Maximum Acceptable Concentration (MAC)) |
| 4 | MECP 2011. Rationale for the development of soil and ground water standards. GW1- Drinking Water |
| **BOLD & SHADED** | Exceeds Human Health Supplemental Screening Criteria, Quantitative Assessment or Risk Management Measures are Required. |
| **BOLD & SHADED** | Exceeds Operational Guidance Value. No potential risk to human health identified |

- S-OA- Commercial soil migrating to Outdoor Air via Soil Vapour Pathway. The S-OA value was selected from the commercial/ industrial land use scenario therefore providing protection to Workers via waste rock COCs. No soil COCs were identified in the Residential Study Areas.

- S-IA- Commercial soil migrating to Indoor Air via Soil Vapour Pathway. The S-IA value was selected from the commercial/ industrial land use scenario therefore providing protection to Workers via waste rock COCs. No soil COCs were identified in the Residential Study Areas.

The EPCs of arsenic and lead in waste rock exceeded their respective MECP component values protective of a Visitor/Harvester (toddler), Outdoor Worker and Subsurface Worker, quantitative assessment of these parameters is required as part of the HHRA. The results of the supplemental screening for human health COCs in waste rock are provided in Table 4.1.3.4-1

Several chemicals were identified as COCs in the supernatant water of the TSF (Section 3.6.2.4) and require supplemental screening for the pathways specific to human health. Supernatant water will be screening for chemicals specific to human health using the same rationale as for the surface water screening. This represents an overly conservative approach as the TSF will not be used for recreational or drinking water purposes. The assessment of this pathway is specific to incidental dermal contact and ingestion for a Project Worker. Project Workers will be the only human receptors exposed to the supernatant water and only during the Operations phase of the Project. This exposure scenario is specific to Study Area No. 1 only.

The results of the human health supplemental screening of the TSF supernatant water (Table 4.1.3.4-2) indicate that potential risk to workers via direct dermal contact and incidental ingestion of supernatant water cannot be ruled out for cyanide, lead, mercury, methylmercury and thallium. A quantitative assessment is required for these parameters.

The concentration of aluminum in the pit-lake during post-closure exceeds the Health Canada's Operational Guidance Value (Table 4.1.3.4-3). Health Canada states that there is no consistent, convincing evidence that aluminum in drinking water causes adverse health effects in humans. Therefore, a health-based guideline or aesthetic objective has not been established for aluminum in drinking water. As such, no potential risk to human health is identified to human receptors via exposure to the pit-lake following closure of the Project.

### 4.1.4 Human Health Conceptual Site Model

The information collected in the problem formulation is depicted on the human health conceptual site model (Figure 4-1), which illustrates the source media for COCs, identifies the receptors at each of the Study Areas, and operable exposure pathways by which receptors may be exposed to the COCs.

The overall conceptual site model (CSM) for human receptors is provided in Figure 4.1.4-1, and individual CSMs for Study Area No. 1, No. 2, and No. 3 in Figures 4.1.4-2, 4.1.4-3, and 4.1.4-4, respectively.

**Table 4.1.3.4-1: Human Health COC Supplemental Screening: Waste Rock**

| Contaminant of Concern (COC) | Exposure Point Concentration (µg/g) | Supplemental Screening Criteria MECP Table 2 Component values[1] (µg/g) | | | | |
|---|---|---|---|---|---|---|
| | Waste Rock | S2 | S3 | S-GW1 | S-OA | S/IA |
| Antimony | 4.695 | 63 | 63 | NV | NV | NV |
| **Arsenic** | **19.466** | **1.3** | **47** | NV | NV | NV |
| Cadmium | 1.106 | 7.9 | 7.9 | NV | NV | NV |
| Cobalt | 119.807 | 250 | 2,500 | NV | NV | NV |
| **Lead** | **144.735** | **120** | **120** | NV | NV | NV |
| Mercury | 0.275 | 67 | 670 | 550 | 35 | 3.9 |
| Silver | 1.275 | 490 | 490 | NV | NV | NV |
| Zinc | 443.903 | 47000 | 47000 | NV | NV | NV |

NOTES:

| | |
|---|---|
| Units | All units in µg/g |
| 1 | MECP 2011. Rationale for the development of soil and ground water standards, Table 2 Component Values for Full Depth, Potable Water Scenario, coarse textured soil and commercial land use. |
| S2 | Direct soil contact- dermal contact and incidental ingestion- Outdoor Worker |
| S3 | Direct soil contact- dermal contact and incidental ingestion- Subsurface Worker |
| S-GW-1 | Soil migrating to groundwater used for drinking water (Resident) |
| S-OA | Soil to Outdoor Air via Soil Vapour Pathway (Worker) |
| S-IA | Soil to Outdoor Air via Soil Vapour Pathway (Worker) |
| — | |
| NV | No Value- insufficient toxicity and/or contaminant transport data to support pathway evaluation. Qualitative assessment only |
| **BOLD & SHADED** | Exceeds Human Health Supplemental Screening Criteria, Quantitative Assessment or Risk Management Measures are Required. |

**Table 4.1.3.4-2: Human Health COC Supplemental Screening: TSF Supernatant Water**

| Contaminant of Concern (COC) | Exposure Point Concentration (mg/L) | Supplemental Screening Criteria (mg/L) | | | |
|---|---|---|---|---|---|
| | Predicted Tailings Supernatant | Recreational Water Quality[1] | Aesthetic Water Quality [2] | Human Health Water Quality [3] | MECP GW 1 Component[4] |
| Aluminum | 0.199 | Insufficient Data to Derive | 0.1* | No Value | No Value |
| Antimony | 0.002 | Insufficient Data to Derive | No Value | 0.006 | 0.006 |
| **Arsenic** | **0.018** | Insufficient Data to Derive | No Value | **0.01** | 0.025 |
| Cobalt | 0.004 | Insufficient Data to Derive | No Value | No Value | 0.003 |
| Copper | 0.018 | Insufficient Data to Derive | 1 | No Value | 1 |
| **Cyanide** | **<1** | Insufficient Data to Derive | No Value | **0.2** | **0.2** |
| **Lead** | **0.082** | Insufficient Data to Derive | No Value | **0.01** | **0.01** |
| **Mercury** | **0.00162** | Insufficient Data to Derive | No Value | **0.001** | **0.001** |
| **Methylmercury**** | **0.00018** | Insufficient Data to Derive | No Value | 0.001 | **0.0003** |
| **Thallium** | **0.642** | Insufficient Data to Derive | No Value | No Value | **0.002** |
| Zinc | 0.04 | Insufficient Data to Derive | 5 | No Value | 5 |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| * | Operational water quality guideline |
| 1 | Health Canada 2012. Guidelines for Canadian Recreational Water Quality Third Edition |
| 2 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Aesthetic Objectives (AO)) |
| 3 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Maximum Acceptable Concentration (MAC)) |
| 4 | MECP 2011. Rationale for the development of soil and ground water standards. GW1- Drinking Water |
| **BOLD & SHADED** | Exceeds Human Health Supplemental Screening Criteria, Quantitative Assessment or Risk Management Measures are Required. |

**Table 4.1.3.4-3: Human Health COC Supplemental Screening: Pit-Lake Water (Post-Closure)**

| Contaminant of Concern (COC) | Exposure Point Concentration (mg/L) | Supplemental Screening Criteria (mg/L) | | | |
|---|---|---|---|---|---|
| | Predicted Pit-Lake Water | Recreational Water Quality[1] | Operational or Aesthetic Water Quality [2] | Human Health Water Quality [3] | MECP GW 1 Component[3] |
| **Aluminum** | **0.2735** | Insufficient Data to Derive | **0.1*** | No Value | No Value |

NOTES:

| | |
|---|---|
| Units | All units in mg/L |
| * | Operational water quality guideline |
| 1 | Health Canada 2012. Guidelines for Canadian Recreational Water Quality Third Edition |
| 2 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Aesthetic Objectives (AO)) |
| 3 | Health Canada 2017. Guidelines for Canadian Drinking Water Quality Summary Table (Maximum Acceptable Concentration (MAC)) |
| 4 | MECP 2011. Rationale for the development of soil and ground water standards. GW1- Drinking Water |
| **BOLD & SHADED** | Exceeds Human Health Supplemental Screening Criteria, Quantitative Assessment or Risk Management Measures are Required. |
| **BOLD & SHADED** | Exceeds Operational Guidance Value. No potential risk to human health identified. |

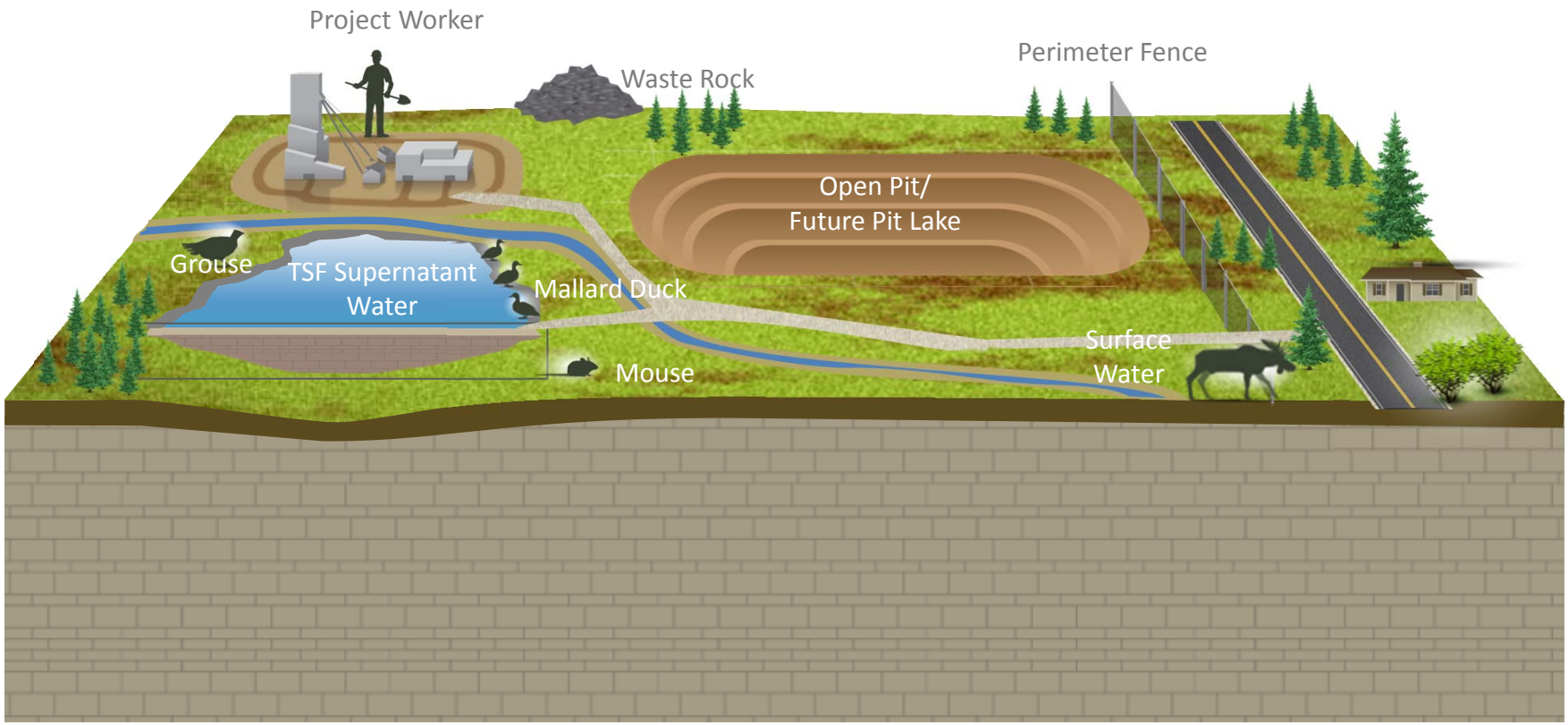
Project Emissions

| Environmental Media | Release and Transport | Exposure Route | Study Area No. 1: Project Operations Area | | Study Area No. 2: Local Study Area | | Study Area No. 3: The Village of Wabigoon |
|---|---|---|---|---|---|---|---|
| | | | Worker | Residents | Vistitor/ Harvester | Residents | Residents |
| Air | Fugitive Dust | Inhalation of Particulates | Yes[1] | No | Yes[1] | Yes[1] | Yes[1] |
| | Deposition | | | | | | |
| Soil | | Dermal Contact and Incidental Ingestion | Yes[1] | Yes[1] | Yes[1] | Yes[1] | Yes[1] |
| | Uptake by Plants | Ingestion of Country Foods | Yes[1] | Yes[1] | Yes[1] | Yes[1] | Yes[1] |
| | Uptake by Birds | Ingestion of Country Foods | Yes[1] | Yes[1] | Yes[1] | Yes[1] | Yes[1] |
| | Uptake by Mammals | Ingestion of Country Foods | Yes[1] | Yes[1] | Yes[1] | Yes[1] | Yes[1] |
| | Vapour to Indoor Air | Inhalation of Indoor Air | Yes[1] | Yes[1] | No | No | No |
| | Vapour to Outdoor Air | Inhalation of Outdoor Air | Yes[1] | Yes[1] | No | No | No |
| | Leaching | | | | | | |
| Surface Water | | Recreational Use | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | | Drinking Water | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Aquatic Plants | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Birds | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Mammals | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Fish | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |

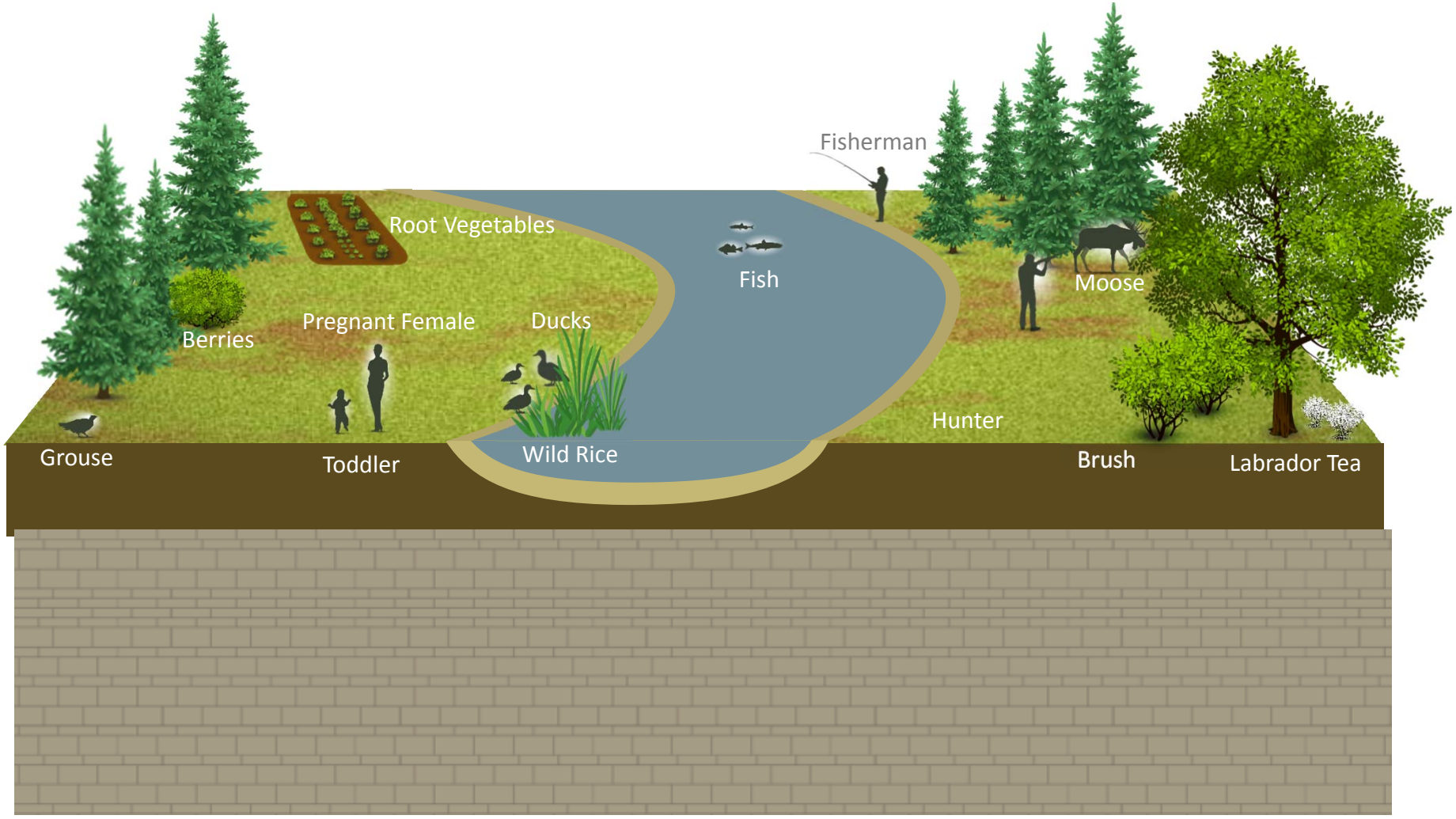
| Project Specific Media | Release and Transport | Exposure Route | Worker | Residents | Site Vistitor/ Harvester | Residents | Residents |
|---|---|---|---|---|---|---|---|
| Waste Rock | | Dermal Contact and Incidental Ingestion | **Yes[2]** | No | No | No | No |
| | Uptake by Plants | Ingestion of Country Foods | No | No | No | No | No |
| | Uptake by Birds | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Mammals | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Vapour to Indoor Air | Inhalation of Indoor Air | No | No | No | No | No |
| | Vapour to Outdoor Air | Inhalation of Outdoor Air | Yes[1] | No | No | No | No* |
| Ore / Tailings | | Dermal Contact and Incidental Ingestion | No | No | No | No | No |
| | Uptake by Plants | Ingestion of Country Foods | No | No | No | No | No |
| | Uptake by Birds | Ingestion of Country Foods | No | No | No | No | No |
| | Uptake by Mammals | Ingestion of Country Foods | No | No | No | No | No |
| | Vapour to Indoor Air | Inhalation of Indoor Air | No | No | No | No | No |
| | Vapour to Outdoor Air | Inhalation of Outdoor Air | No | No | No | No | No* |
| Tailings Storage Facility Supernatant Water | | Dermal Exposure | **Yes[2]** | No | No | No | No |
| | | Incidential Ingestion | **Yes[2]** | No | No | No | No |
| | Uptake by Aquatic Plants | Ingestion of Country Foods | No | No | No | No | No |
| | Uptake by Birds | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Mammals | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Fish | Ingestion of Country Foods | No | No | No | No | No |
| Pit Lake Water | | Recreational Use | No | **Yes[2]** | No | No | No |
| | | Drinking Water | No | **Yes[2]** | No | No | No |
| | Uptake by Aquatic Plants | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Birds | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Mammals | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |
| | Uptake by Fish | Ingestion of Country Foods | No | **Yes[2]** | **Yes[2]** | **Yes[2]** | **Yes[2]** |

| | |
|---|---|
| Yes[1] | Exposure pathway considered, however no COCs identified in source media |
| Yes[2] | Exposure pathway considered and COCs identified in source media. Exposure pathway will be assessed quantitatively in HHRA |
| No | Exposure pathway considered but determined to be inopreable based on Goliath Gold Project design |

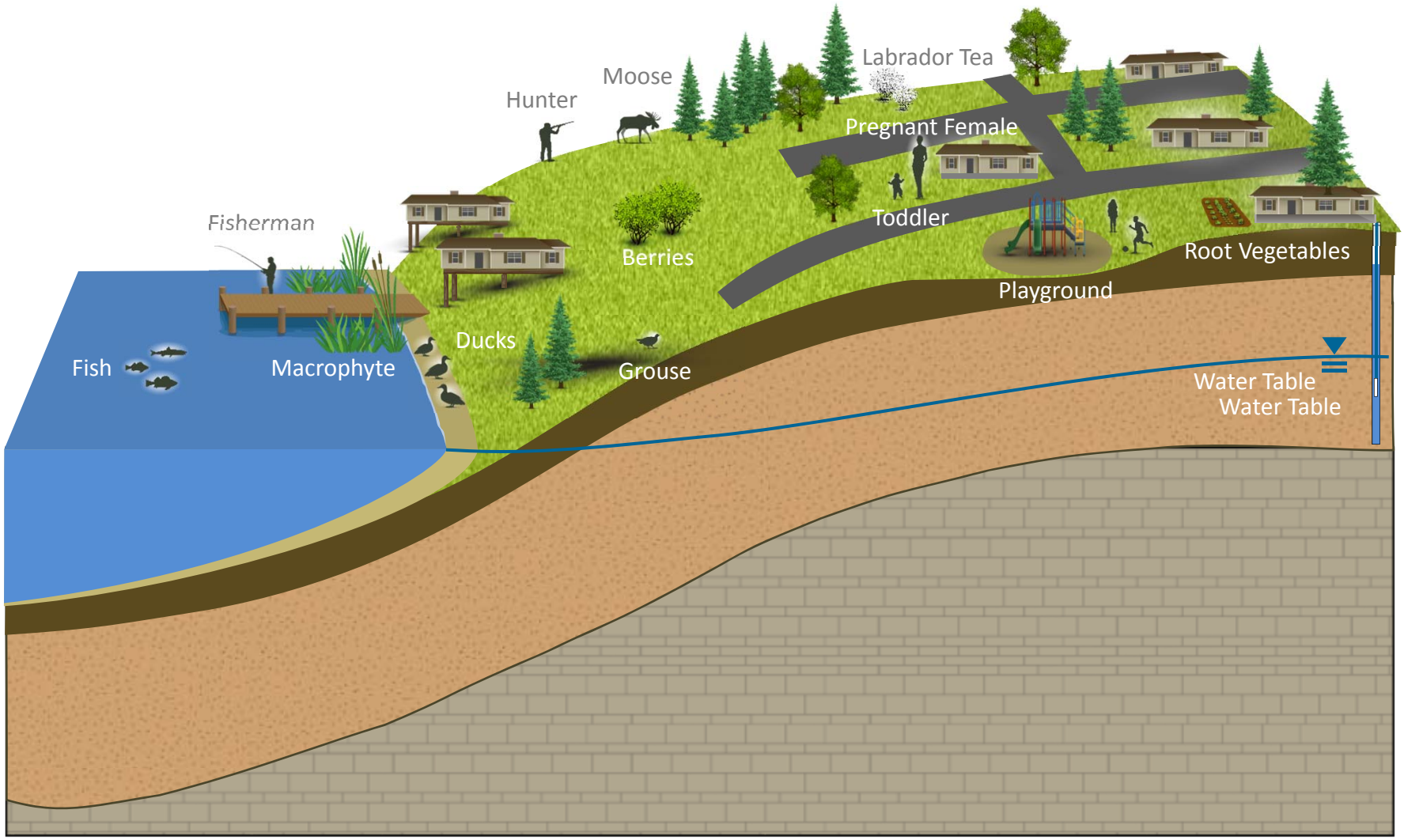
| | | |
|---|---|---|
| **CLIENT:** Treasury Metals Inc. | **PROJECT: GOLIATH GOLD PROJECT HUMAN HELATH AND ECOLOGICAL RISK ASSESSMENT** | |
| Wood Environment & Infrastructure | TREASURY METALS Inc. wood. | **TITLE:** Overall Human Health Conceptual Site Model for the Goliath Gold Project — **Figure 4.1.4-1** |




| | | |
|---|---|---|
| CLIENT:<br>Treasury Metals Inc. | PROJECT: GOLIATH GOLD PROJECT HUMAN HELATH AND ECOLOGICAL RISK ASSESSMENT | |
| Wood Environment & Infrastructure | TREASURY METALS Inc.<br>wood. | TITLE:<br>Human Health Conceptual Site Model Illustration for Study Area No. 1<br>Figure 4.1.4-2 |




| | | |
|---|---|---|
| CLIENT:<br>Treasury Metals Inc. | PROJECT: GOLIATH GOLD PROJECT HUMAN HELATH AND ECOLOGICAL RISK ASSESSMENT | |
| Wood Environment & Infrastructure | TREASURY METALS Inc.<br>wood. | TITLE:<br>Human Health Conceptual Site Model Illustration for Study Area No. 2<br>Figure 4.1.4-3 |




| | | |
|---|---|---|
| CLIENT:<br>Treasury Metals Inc. | PROJECT: GOLIATH GOLD PROJECT HUMAN HELATH AND ECOLOGICAL RISK ASSESSMENT | |
| Wood Environment & Infrastructure | TREASURY METALS Inc.<br>wood. | TITLE:<br>Human Health Conceptual Site Model Illustration for Study Area No. 2<br>Figure 4.1.4-4 |

## 4.2 Toxicity Assessment

The purpose of the toxicity assessment is to identify both the types of adverse effects a COC may potentially cause as well as the relationship between the magnitude of COCs to which receptors may be exposed (dose) and the likelihood of an adverse effect (response). Adverse health effects are characterized as being carcinogenic or non-carcinogenic. The toxicity assessment involves the classification of the potential toxicological effects of chemicals as carcinogenic or non-carcinogenic (or both), and the subsequent derivation of a Toxicological Reference Value (TRV). A toxicity assessment is required for all COCs selected as human health COCs and considers possible modes of toxicity associated following different routes and durations of exposure. The results of the toxicity assessment, when combined with the results of the exposure assessment (Section 4.3) provide a conservative estimate of the potential risk.

TRVs are only selected for those chemicals that were carried forward as COCs requiring quantitative assessment.

There were no COCs identified in air, and subsequently the inhalation pathway screened out of the quantitative assessment as described in Section 4.1.3 "Supplemental COC Screening for Human Health". Therefore, the toxicity assessment did not require selection of inhalation TRVs and is limited to TRVs specific to the ingestion and/or dermal contact pathways.

The following table (Table 4.2-1) provides a numerical summary of the TRVs selected for the HHRA of the Goliath Gold Project. The following sub-sections provide the details of the TRV selection and the nature of the chemical toxicity.

The TRVs were selected from pertinent regulatory bodies in the following order of preference:

- Health Canada as provided in "Part II: Health Canada Toxicological Reference Values (TRVs) and Chemical-Specific Factors, Version 2.0" dated 2010.
- Ontario Ministry of Environment, Conservation, and Parks (formally Ontario Ministry of Environment and Climate Change) as provided in "Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario" dated 2011 (and 2017 updates).
- Agency of Toxic Substances and Disease Registry Toxicological Profiles.
- JECFA (2011) and EFSA (2013), specifically for lead.

**Table 4.2-1: Toxicological Reference Values (TRVs) for Human Health Risk Assessment**

| Chemical of Concern | Critical Effect(s) TRV is based on | Oral Chronic Non-Cancer | | Oral Slope Factor | |
|---|---|---|---|---|---|
| | | TRV Selected (mg/kg/d) | Ref | TRV Selected $(mg/kg/d)^{-1}$ | Ref |
| Aluminum | Neurodevelopmental | 1 | ATSDR, 2008 | None-Selected | |
| Antimony | Decreased blood glucose level, vascular, decreased lifespan | $4 \times 10^{-4}$ | MECP (IRIS 1991) | None-Selected | |
| Arsenic | Hyperpigmentation, keratosis and possible vascular complications | $3 \times 10^{-4}$ | MECP (IRIS 1993, CalEPA, ChREL 2000; ATSDR 2005) | 1.80 | Health Canada, 2010 |
| Cadmium | renal tubular dysfunction | $1 \times 10^{-3}$ | Health Canada, 2010 | None-Selected | |
| Cobalt | Polycythemia | $1 \times 10^{-3}$ | MECP (Modified ATSDR 2004) | None-Selected | |
| Copper | Hepatotoxicity and gastrointensential effect | 0.091 | Health Canada, 2010 | None-Selected | |
| Cyanide | decreased weight gain, thyroxin levels and myelin degeneration | $2 \times 10^{-2}$ | Health Canada, 2010 | None-Selected | |
| Lead | Children: developmental Adults: neurotoxicity and cardiovascular effects | $5 \times 10^{-4}$ | JECFA (2011) and EFSA (2013) | None-Selected | |
| Mercury | Nephrotoxicity | $3 \times 10^{-4}$ | Health Canada, 2010 | None-Selected | |
| Methylmercury | Neurodevelopmental effects | $2 \times 10^{-4}$ | Health Canada, 2010 | None-Selected | |
| Silver | Argyria, a medically benign but permanent bluish-gray discoloration of the skin | $5 \times 10^{-3}$ | MECP (IRIS 1996) | None-Selected | |
| Thallium | Alopecia (hair loss) | $1.4 \times 10^{-5}$ | MECP (CalEPA DW 1999) | None-Selected | |
| Uranium | Nephrotoxic and hepatotoxic effects | $6 \times 10^{-4}$ | Health Canada, 2010 | None-Selected | |
| Zinc | Children: increased growth; Adults: reduced iron and copper status | $4.8 \times 10^{-2}$ | Health Canada, 2010 | None-Selected | |

### 4.2.1 Non-Carcinogens

Compounds that have non-carcinogenic effects are assumed to have a dose below which no adverse effect occurs, or conversely, above which an effect may be observed. This dose is called the threshold dose. In laboratory experiments, this dose is known as the no-observed-adverse-effect-level (NOAEL). The lowest dose at which an adverse effect is observed is called a lowest-observed-adverse-effect level (LOAEL). The NOAEL or LOAEL is often used by regulatory agencies as the point of departure when deriving threshold-based TRVs (e.g., Reference Dose (RfD), Tolerable Daily Intake (TDI), Reference Concentration (RfC), Tolerable Concentration (TC)). The TRV provides reasonable certainty that if the specified exposure dose is below the threshold, then specific health outcomes associate with that TRV are

not expected to occur even if daily exposure were to occur for a lifetime. TRVs are typically expressed in terms of milligrams of compound per kilogram of body weight (mg/kg-day) for oral/dermal exposure (i.e., RfD, TDI), and micrograms of compound per meter cubed of inhaled air (µg/$m^3$) (i.e., RfC, TC).

There were no air COCs identified and the inhalation of fugitive dust pathway was screened out of the quantitative assessment during the Problem Formulation Step in Section 4.1. Therefore, no RfCs or TCs are selected as part of this HHERA. Oral references doses are adopted for the dermal pathway.

The following COCs identified in air, soil, water, or Project-specific media are assessed as non-carcinogens.

- Aluminum
- Antimony
- Arsenic
- Cadmium
- Cobalt
- Copper
- Cyanide
- Mercury
- Methylmercury
- Silver
- Thallium
- Uranium
- Zinc

The TRVs used in this risk assessment, as summarized in Table 4.2-1, represent chronic TRVs that are considered to be most scientifically defensible based on a review of the available data. The TRVs used in this assessment were primarily obtained from Health Canada (2010b) and MECP (2011) unless otherwise noted.

### 4.2.2 Carcinogens

The underlying assumption of regulatory risk assessment for compounds with known or assumed potential carcinogenic effects is that no threshold dose exists. In other words, it is assumed that a finite level of risk is associated with any dose above zero, theoretically even a single molecule could cause some level of risk. For carcinogenic effects, a two-step evaluation is used, in which the chemical is assigned a weight-of evidence classification, and then a cancer slope factor (CSF) is calculated. The weight-of-evidence classification is based on the likelihood of the compound being a human carcinogen. In the second part of the evaluation, CSFs are calculated for compounds that are known or probable human carcinogens. Different models are used by regulatory agencies that extrapolate observed responses at high doses used in animal studies to predicted responses in humans at the low doses encountered in environmental situations. The models used typically assume no threshold and use animal as well as human data to develop an estimate of the carcinogenic potency of a compound. This numerical estimate is referred to as the cancer slope factor. The CSF is expressed as the rate of cancer per unit of dose $(mg/kg/day)^{-1}$ or as an inhalation unit risk factor (IUR), as the rate of cancer per unit of concentration of inhaled air $(mg/m^3)^{-1}$.

There were no air COCs identified and the inhalation of fugitive dust pathway was screened out of the quantitative assessment during the Problem Formulation Step in Section 4.1. Therefore, no IURs are selected as part of this HHERA. Oral slope factors are adopted for the dermal pathway.

The following COCs identified in soil, water, or Project-specific media are known or suspected carcinogens:

- Arsenic

The TRVs for the carcinogenic effects of these COCs are provided in Table 4.2-1.

### 4.2.3 Nature of Toxicity (Hazard Assessment)

The Hazard Assessment describes the nature of the potential adverse health effects associated with exposure to each of the identified COCs. As mentioned previously, the effects associated with exposure are characterized as either non-carcinogenic (threshold) or carcinogenic (non-threshold). To provide context to the relative toxicity of each chemical in the environment, details are also provided regarding if the chemical is naturally occurring, or naturally elevated in the HHERA RSA. The following provides the rationale for the selection for each of the TRV and the associated effects outlined in Table 4.2-1.

#### 4.2.3.1 Aluminum

Aluminum is the most abundant metal in the earth's crust and occurs naturally in air, soil, and water. Aluminum was selected as a COC in the HHERA as the baseline (i.e., Base Case) concentration in surface water exceeded its respective PWQO and as such the Project Assessment Scenario also. The predicted concentration in the pit-lake during post closure also exceeds its criteria. The Health Canada water quality criteria is set based on an Operational Guideline value as there is no consistent, convincing evidence that aluminum in drinking water causes adverse health effects in humans. The aluminum exceedance in surface water is reflective of its natural occurrence in environmental media.

Generally, ingestion of aluminum is considered relatively non-harmful. Respiratory effects, in particular impaired lung function and fibrosis, have been observed in workers exposed to aluminum dust or fumes; however, this has not been consistently observed across studies and it is possible that co-exposure to other compounds contributed to observed effects.

Given that aluminum is considered relatively non-toxic, neither Health Canada nor the MECP report a human health TRV for aluminum. The Agency for Toxic Substances and Disease Registry (ATSDR), 2008, provides a TRV defied as a chronic-duration oral minimal risk level (MRL), of 1 mg Al/kg/day for aluminum. This MRL is based on a NOAEL of 26 mg Al/kg/day and a LOAEL of 130 mg Al/kg/day for neurodevelopmental effects in the offspring of mice exposed to aluminum lactate in the diet on gestation day 1 through lactation day 21 followed by pup exposure until postnatal day 35 (Golub and Germann 2001). The MRL was derived by dividing the NOAEL by an uncertainty factor of 100 (10 for animal to human extrapolation and 10 for human variability) and a modifying factor of 0.3 to account for the higher bioavailability of the aluminum lactate used in the principal study, as compared to the bioavailability of aluminum in the human diet and drinking water.

#### 4.2.3.2 Antimony

Antimony is found in the earth's crust at about 0.2–0.3 grams per metric ton. Antimony is often found with other metals. Ores containing antimony are mined and then either changed into antimony metal or combined with oxygen to form antimony oxide. Antimony enters the environment during the mining and processing of antimony-containing ores and in the production of antimony metal, alloys, and antimony oxide, and combinations of antimony with other substances. Antimony was identified as a COC as chemical assay results for waste rock indicated an EPC of antimony above the MECP Table 1 Site Condition Standards (i.e., background in soils).

Health Canada has not selected a TRV for antimony. The US EPA Integrated Risk Information System (IRIS) provides a chronic TRVs for antimony for noncarcinogenic effects, based on a rat chronic oral bioassay (Schroeder et al., 1970). The TRV was based on a LOAEL of 0.35 mg/kg bw/day with a critical endpoint of decreased blood glucose levels in male rats. An uncertainty factor of 1000 (10 for interspecies conversion, 10 to protect sensitive individuals, and 10 because the effect level was a LOAEL and no NOEL was established) was applied to the LOAEL of 0.35 mg/kg bw/day.

#### 4.2.3.3 Arsenic

Arsenic is a naturally occurring element that is widely distributed in the Earth's crust. Arsenic is classified chemically as a metalloid, having both properties of a metal and a nonmetal; however, it is frequently referred to as a metal. The toxicity of arsenic is dependent on its chemical speciation rather than total concentration. Rarely are chemical concentrations of arsenic expressed as specific speciation, rather arsenic is most commonly expressed as total arsenic concentration. Therefore, the potential risk of arsenic in the environment is often over estimated. The studies from which Health Canada and the MECP derived their TRVs were based on total arsenic. Arsenic was identified as a COC as chemical assay results for waste rock indicated an EPC of arsenic above the MECP Table 1 Site Condition Standards (i.e., background in soils).

The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans. EPA also has classified inorganic arsenic as a known human carcinogen. Health Canada provides TRVs for carcinogenic effects associated with arsenic exposure, however arsenic is assessed for both cancer and non-cancer endpoints herein.

Health Canada has not selected a non-cancer TRV for arsenic, however it is of the understanding of the risk assessment community that the interpretation of the toxicological endpoint of arsenic is currently under review. The non-cancer oral TRV of $3 \times 10^{-4}$ mg/mg/day for arsenic is provided by the US EPA IRIS. The is derived from an LOAEL of 0.009 mg/L (converted to 0.008 mg/kg/day) and a LOAEL of 0.17 mg/L (converted to 0.014 mg/kg/day) from two studies of human chronic oral exposure by Tseng 1977, and Tseng et al., 1968. The critical effect in the studies was hyperpigmentation, keratosis and possible vascular complications. An uncertainty factor of 3 was applied to account for both the lack of data to preclude reproductive toxicity as a critical effect and to account for some uncertainty in whether the NOAEL of the critical study accounts for all sensitive individuals.

The arsenic TRVs for carcinogenic effects provided by Health Canada (2010) is an oral slope factor of 1.80 $(mg/kg/day)^{-1}$. The oral slope factor is based on a human study by Morales et al., 2000 and a critical endpoint of bladder, liver and lung cancer.

#### 4.2.3.4 Cadmium

Cadmium is found naturally occurring in the earth's crust, associated with zinc, lead, and copper ores. Cadmium and its compounds may travel through soil, but its mobility depends on several factors such as pH and amount of organic matter, which will vary depending on the local environment. Generally, cadmium binds strongly to organic matter where it will be immobile in soil and be taken up by plant life, eventually, entering the food supply. Cadmium was identified as a COC as chemical assay results for waste rock indicated an EPC of cadmium above the MECP Table 1 Site Condition Standards (i.e., background in soils).

The oral non-cancer TRV provided by Health Canada (2010) of $1 \times 10^{-3}$ mg/kg/day is based on an NOAEL of 2.5 µg Cd/g creatinine in urine and renal tubular dysfunction via chronic oral intake in humans.

Health Canada (2010) has identified cadmium as a Group II probably human carcinogen based on the inhalation exposure pathway; however, an oral slope factor has not been identified. The US EPA IRIS (1987) has identified no evidence of a carcinogenic response from the oral route of exposure in animal studies.

#### 4.2.3.5 Cobalt

Cobalt is a naturally-occurring element. Small amounts of cobalt are naturally found in most rocks, soil, water, plants, and animals, typically in small amounts. Cobalt is usually found in the environment combined with other elements such as oxygen, sulfur, and arsenic. Small amounts of these chemical compounds can be found in rocks, soil, plants, and animals. Cobalt is found in water in dissolved or ionic form, typically in small amounts. Cobalt was identified as a COC as the EPC in surface water exceeded its respective PWQO at baseline (i.e., Base Case Assessment Scenario) and subsequently in the Project Assessment Scenario. The exceedance is reflective of the fact cobalt is ubiquitous in the environment.

Much of our knowledge of cobalt toxicity is based on animal studies. Cobalt is essential for the growth and development of certain animals, such as cows and sheep. Short-term exposure of rats to high levels of cobalt in the air results in death and lung damage. Longer-term exposure of rats, guinea pigs, hamsters, and pigs to lower levels of cobalt in the air results in lung damage and an increase in red blood cells. Short-term exposure of rats to high levels of cobalt in the food or drinking water results in effects on the blood, liver, kidneys, and heart. Longer-term exposure of rats, mice, and guinea pigs to lower levels of cobalt in the food or drinking water results in effects on the same tissues (heart, liver, kidneys, and blood) as well as the testes, and also causes effects on behavior. Sores were seen on the skin of guinea pigs following skin contact with cobalt for 18 days. Generally, cobalt compounds that dissolve easily in water are more harmful than those that are hard to dissolve in water.

Health Canada does not provide a human health TRV for cobalt. The ATSDR adopted a minimal risk level (MRL) of $1 \times 10^{-2}$ mg/kg-day for intermediate duration oral exposure, based on a LOAEL of 1 mg/kg-day for polycythemia in human volunteers (Davis and Fields 1958). The MECP adopted the oral ATSDR TRVs with an additional order of magnitude of uncertainty applied. The TRV of $1 \times 10^{-3}$ mg/kg-day used for the HHRA of cobalt was provided by the MECP.

#### 4.2.3.6 Copper

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and, at low levels, air. Copper also occurs naturally in all plants and animals. It is an essential element for all known living organisms including humans and other animals at low levels of intake. At much higher levels, toxic effects can occur. Copper was identified as a COC as chemical assay results for waste rock indicated an EPC of copper above the MECP Table 1 Site Condition Standards (i.e., background in soils).

Health Canada has adopted an oral TRV of 0.091 mg/kg/day for toddlers from a human study performed by O'Donohue et al., 1993 where hepatotoxicity and gastrointensential effects were reported.

#### 4.2.3.7 Cyanide

Cyanide is a chemical group consisting of one atom of carbon connected to one atom of nitrogen by three molecular bonds (C≡N) and cyanides are compounds (substances formed by the joining of two or more atoms) that contain a cyanide group (typically shown as CN). Certain bacteria, fungi, and algae can produce cyanide, and cyanide is found in a number of foods and plants. In certain plant foods, including almonds, millet sprouts, lima beans, soy, spinach, bamboo shoots, and cassava roots (which are a major source of food in tropical countries), cyanides occur naturally as part of sugars or other naturally-occurring compounds. However, the edible parts of plants that are eaten in the United States, including tapioca which is made from cassava roots, contain relatively low amounts of cyanide. Many of the cyanides in soil and water come from industrial processes. The major sources of cyanides in water are discharges from metal mining processes, organic chemical industries, iron and steel plants or manufacturers, and publicly owned wastewater treatment facilities. Cyanide is used for the Goliath Gold Project to extract gold from ore. Cyanide was identified as a COC due to its potential concentration in the TSF supernatant water.

The Health Canada oral TRV of $2 \times 10^{-2}$ mg/kg/day was adopted based on a chronic study in rats who were dosed for 2 years. The TRV is set based on an NOAEL of 10.8 mg/kg/day with a 500 x uncertainly factor applied (10 x each for intraspecies and interspecies variability, and 5x for differences in cyanide tolerance depending on the mode of ingestion). The critical endpoints were decreased weight gain, thyroxin levels and myelin degeneration.

#### 4.2.3.8 Lead

Lead occurs naturally in the Earth's crust, however typically elevated lead concentrations are as a result of anthropogenic activities. Lead was identified as a COC as chemical assay results for waste rock indicated an EPC of lead above the MECP Table 1 Site Condition Standards (i.e., background in soils).

In 1987, the World Health Organization (WHO) published a provisional tolerable weekly intake (PTWI) of 25 µg/kg bw which was considered protective of exposure to lead from all sources to infants and children. This value was based on a mean daily exposure of 3 to 4 µg/kg bw for infants and children and was not associated with an increase in blood lead levels. In response, Health Canada published a tolerable daily intake (TDI) of 3.6 µg/kg/day for exposure to lead. The WHO 1987 recommendation is no longer considered protective of health by the regulator, the value was rescinded which resulted in Health Canada rescinding their value of 3.6 µg/kg/day. In the interim as Health Canada did not have a TRV for lead and recommended using the MECP intake of concern (IOC) for lead which was 1.85 µg/kg/day. However, recently, Health Canada advises against the adoption of the MECP value for lead as it is based on the WHO PTWI which has been rescinded.

Recent epidemiological research studies have conclusively demonstrated that adverse human health effects remain, despite the decline in chronic lead exposures. This suggests that lead should be considered as a non-threshold chemical and exposures estimated without the implementation of dose averaging. In children, the most prominently observed health effect is neurodevelopmental impairment supported by the inverse relationship between an elevated blood lead level and a reduced Intelligence Quotient (IQ) score and reduced cognitive functions up to at least seven years of age. In adults, exposure to lead may cause cardiovascular effects and nephrotoxicity, as a number of studies have identified an

association between blood lead concentration, elevated systolic blood pressure (SBP) and chronic kidney disease (CKD), respectively.

Currently, Health Canada recommends reviewing the following documents for deriving a TRV to be used in quantitative risk assessments:

- JECFA. 2011. Safety evaluation of certain food additives and contaminants. Prepared by the seventy-third meeting of the Joint FAO/WHO Expect Committee on Food Additives (JECFA). World Health Organization, Geneva, Switzerland (WHO Food Additives Series, No. 64). Available at: http://www.inchem.org/documents/jecfa/jecmono/v64je01.pdf

- EFSA. 2013. Scientific opinion on lead in food. EFSA Panel on Contaminants in the Food Chain (CONTAM), European Food Safety Authority, Parma, Italy. EFSA J. 8(4): 1570. Available at: http://www.efsa.europa.eu/en/search/doc/1570.pdf

An upper intake range of 0.5 µg/kg b.w. per day, from soil alone, has been used in this assessment. This value represents a risk specific dose based on non-threshold effects. The upper intake range of 0.5 µg/kg b.w. per day is considered to be equivalent to an approximate 1 IQ point decrement. This is based on findings from JECFA (2011) and EFSA (2013). The blood lead (B-Pb) to IQ relationship was developed by Lanphear et al., (2005) using a dose-response analysis of data from seven population studies (EFSA, 2013). A $BMDL_{01}$ of 12 µg/L B-Pb was identified as being associated with a decrease of cognitive ability by 1 IQ point. The $BMDL_{01}$ represents the 95$^{th}$ percentile lower confidence limit of the benchmark dose (BMD) of 1 % extra risk. With the use of the Integrated Exposure Uptake Biokinetic (IEUBK) model, a $BMDL_{01}$ of 12 µg/L B-Pb was identified as corresponding to a dietary intake of 0.5 µg/kg b.w. per day (EFSA, 2013) for developmental effects.

For the cardiovascular effects, a $BMDL_{01}$ intake value of 1.50 µg/kg b.w. per day was derived from the B-Pb levels. The benchmark response selected for this endpoint was a 1 % change in sysoltic blood pressure, corresponding to an increase of 1.2mmHg from the baseline value of 120 mmHg in a normotensive adult (EFSA, 2013). For effects on the kidney, a $BMDL_{10}$ intake value of 0.63 µg/kg b.w. per day was derived from an endpoint of chronic kidney disease (CKD), defined as a 50 % reduction in glomerular filtration rate (GFR), to below 60mL/1.73 $m^2$ body surface/min.

In the HHERA, developmental, cardiovascular effects, and nephrotoxicity of lead are characterized on a receptor age group specific basis using the EFSA guidance document (EFSA, 2013).

#### 4.2.3.9 Mercury (Inorganic and Methyl)

Mercury is a naturally occurring metal found throughout the environment. Mercury releases from natural sources have remained relatively constant in recent history, resulting in a steady rise in environmental mercury. Human activities since the start of the industrial age (e.g., mining, burning of fossil fuels) have resulted in additional release of mercury to the environment. Inorganic mercury may enter water or soil from the weathering of rocks that contain mercury or from industrial releases. Microorganisms (bacteria, phytoplankton in the ocean, and fungi) convert inorganic mercury to methylmercury. Methylmercury released from microorganisms can enter the water or soil and has a strong affinity for sorption to organic matter. Given the strong affinity to partition to organic matter, methylmercury accumulates within the fatty tissues of organisms and thereby also the food chain. Ingestion of fish therefore represents a dominant pathway of exposure for mercury in the form of methylmercury.

Mercury was identified as a COC herein based on a predicted EPC in tailings supernatant water. Mercury was measured or predicted in all environmental media including air, soil and water. Methylmercury concentrations were not measured in environmental media; however, the EPC concentrations were conservatively assumed for methylmercury. The predicted EPC of methylmercury in surface water exceeded its respective PWQO at baseline conditions (i.e., Base Case Assessment Scenario), and subsequently for the Project Assessment Scenario also.

***Inorganic Mercury***

An oral reference dose of $3\times 10^{-4}$ mg/kg/day was selected as the oral TRV to assess mercury in the current assessment. This value was selected by Health Canada (2010b) and is based on three studies: Druet et al. (1978), Bernaudin et al. (1981) and Andres (1984) where the critical effect is nephrotoxicity. In the Druet study, rats were exposed via sub-cutaneous injection for a period ranging between 1 to 8 weeks with the following doses: 0, 5, 10, 25, 50, 100 and 200 µg/100 g-body weight and 1, 2 or 3 injections per week (various groups). The studies by Bernaudin and Andres exposed rats via gavage for a period of 2 months to 2.22 mg mercury/kg/body weight/week. Lowest observed adverse effects levels ranged between 0.226 mg/kg/day and 0.633 mg/kg/day. The oral RfD was derived using an uncertainty factor of 1000 (10x use of subchronic studies, 10x interspecies variability; 10x use of a LOAEL) to the LOAEL of 0.3 mg/kg/day.

In the current assessment, mercury was not assessed as a carcinogen as Health Canada and the MECP have not classified it as such. This is based on the assessment by IARC which classified metallic mercury and inorganic mercury compounds into Group 3 indicating that they cannot be classified as to their carcinogenicity to humans. This is based on inadequate evidence in humans for the carcinogenicity of mercury and mercury compounds; inadequate evidence in experimental animals for the carcinogenicity of metallic mercury; and limited evidence in experimental animals for the carcinogenicity of mercuric chloride (IARC, 1993).

***Methylmercury***

Health Canada provides two TRVs for methylmercury; one for the general population and one for women of child bearing age/ children less than 12 years old. The more conservative TRV of $2 \times 10^{-4}$ mg/kg/day for women of child bearing age and children less than 12 years old, was selected for all receptors in the HHRA. The TRV was derived from an epidemiological perspective of neurodevelopmental effects where a threshold of 10 ppm in maternal hair (equivalent to 0.001 mg/kg/day) was derived and an uncertainty factor of 5 applied.

As per Health Canada guidance, exposure to mercury through consumption of fish will be compared to the methylmercury TRV as it is the predominant form of mercury in aquatic systems.

### 4.2.3.10 Silver

Silver occurs naturally in the environment as a soft, "silver" colored metal. Sources of silver in the environment include natural wearing down of silver-bearing rocks and soil by the wind and rain. Humans are most often exposed to silver in food and drinking water.

Health Canada has not selected a TRV for silver. The oral non-cancer TRV of $5 \times 10^{-3}$ mg/kg/day selected for silver is provided by the US EPA IRIS. This TRV is derived from a 2 to 9-year study in humans by Gaul and Staud, 1935 where an LOAEL of 0.014 mg/kg/day was calculated. The critical effect in humans

ingesting silver is argyria, a medically benign but permanent bluish-gray discoloration of the skin. The US EPA applied an uncertainty factor of 3 is applied to account for minimal effects in a subpopulation which has exhibited an increased propensity for the development of argyria. The critical effect observed is a cosmetic effect, with no associated adverse health effects.

#### 4.2.3.11 Thallium

Pure thallium is a soft, bluish-white metal that is widely distributed in trace amounts in the earth's crust. In its pure form, it is odorless and tasteless. It can be found in pure form or mixed with other metals in the form of alloys.

Thallium was identified as a COC requiring assessment as part of the HHRA based on surface water quality exceedances at baseline conditions (Base Case Assessment Scenario) and subsequently the Project Assessment Scenario.

Health Canada has not selected a TRV for thallium. The oral non-cancer TRV of $1.4 \times 10^{-5}$ mg/kg/day selected for thallium is adapted from the public health goal of 0.0001 mg/L (0.1mg/L or 0.1 ppb) for thallium in drinking water provided by the California Environmental Protection Agency (CalPA). The public health goal is based on a noncancerous health endpoint observed in female rats administered thallium daily by gavage for 90 days (Stoltz et al., 1986). In this study, alopecia, or hair loss, was observed in both male and female rats which is a classic sign of thallium poisoning. The no-observed-effect level (NOEL) was identified to be the administered mid-dose level of 0.04 mg/kg-day. For the calculation of the TRV, a cumulative uncertainty factor of 3,000 was incorporated to account for the use of a subchronic study, uncertainty in inter- and intra-species extrapolation, and the steep dose response curve.

#### 4.2.3.12 Uranium

Uranium is naturally present nearly all rocks and soils and may be found in air as dust, surface water especially in areas with naturally uranium-rich rock formations, and subsequently food. Uranium can be released into the environment through wind and water erosion and volcanic eruptions. Industries involved in mining, milling, and processing of uranium can also release it into the environment.

Uranium was identified as a COC as the EPC in surface water exceeded its respective PWQO at baseline (i.e., Base Case Assessment Scenario) and subsequently in the Project Assessment Scenario. The exceedance is reflective of the fact uranium is ubiquitous in the environment as a result of the natural weathering process of uranium-rich rock formations.

The oral TRV for uranium of $6 \times 10^{-4}$ mg/kg/day used in the HHRA was provided by Health Canada. The TRV was derived from a LOAEL of 0.06 mg/kg/day for nephrotoxic and hepatotoxic effects in rats via ingestion of drinking water. An uncertainty factor of 100 was applied to account for 10x intra-species and 10x inter-species variability.

#### 4.2.3.13 Zinc

Zinc is one of the most common elements in the Earth's crust. Zinc is found in the air, soil, and water and is present in all foods. Zinc was the only metal parameter in surface water to be considered a COC are a result of the Project alone. This surface water exceedance is as a result of the geochemistry associated with waste rock as zinc is also a COC in waste rock.

The Health Canada zinc TRV of 4.8 × $10^{-2}$ mg/kg/day was used, which is the most conservative TRV, given the range of values based on age. The TRV is representative of a tolerable upper intake level, based the dietary reference intakes published by the Institute of Medicide of the National Academies (IOM, 2001). The value is based on supplement studies for adults (Yadrick et al., 1989) and infants and children (Walravens and Hambidge, 1976). The IOM does not consider zinc to be carcinogenic to humans.

## 4.3 Exposure Assessment

The exposure assessment component of the HHRA is intended to estimate potential exposures for the receptors that could be expected to come into contact with COCs at the Site. It describes the receptors and the exposure pathways that could contribute to exposure and uses this information to estimate the potential exposure for each type of receptor. The exposure assessment can be summarized by these three basic components:

- Characterization of COC exposure concentrations in each relevant media;
- Characterization of potential receptors at each of the three Study Areas;
- Characterization of potential exposure pathways specific to each of the three Study Areas;
- Quantitative exposure estimates for each chemical exposure media and receptor combination; and
- Total exposure from all operable exposure pathways, routes, and media for which determination of residual adverse effects may be based.

The exposure assessment is considered for all Assessment Scenarios, Project phases, and for each of the three Study Areas, however, a quantitative estimation of exposure is only calculated for those pathways determined to be reasonably complete as per the HHRA problem formulation described in the previous section.

Each of the components of the exposure assessment is detailed below.

### 4.3.1 Exposure Point Concentrations

Exposure point concentrations (EPCs) are concentrations in each relevant media to which receptors were assumed to be exposed. The EPCs of metal parameters and methylmercury in environmental and Project-specific media were used for COC selection as detailed in Section 3.5. These EPCs discussed in Section 3.5 are used as inputs in the HHERA Goliath Gold Model and therefore also provided in Appendix IV- Model Inputs. The EPC selected for each media type (with the exception of tailings storage facility supernatant water) are the 95% UCLM calculated using calculated following the US EPA (2015) ProUCL guidance document. For those parameters identified as a COC based on an exceedance of a regulatory criteria in one or more media types, EPCs in country foods were modelled from the EPCs in relevant environmental media and/or Project-specific media, as presented in Section 3.5 and Appendix II- Supplemental Information for the HHRA of Country Foods for the Goliath Gold Project.

### 4.3.2 Characterization of Potential Human Receptors, Exposure Frequency, and Duration

The human receptors chosen for the assessment of potential risk in the HHRA are representative of those who are anticipated to experience the highest magnitude, frequency, and duration of chemical exposure representative of the various phases of the Project. Human receptors who experience chemical exposure may be those who work within the Operations Area of the Project (i.e., Study Area No. 1), live in the vicinity of the Project (Study Area Nos. 2 and 3), or who visit the area surrounding the Project to practice traditional land and resources uses including fishing, hunting and harvesting (Study Area Nos 2 and 3).

The human receptors are theoretical, however are chosen to be representative of a site-specific approach to the assessment of potential risk, and be inclusive of the most sensitive members of the populations. Sensitive members of the population include toddlers who have a higher soil ingestion rate relative to body weight, pregnant females who's developing fetus may experience developmental effects when exposed to certain chemicals, or members of indigenous communities who may ingest higher rates of country foods. Receptor characteristics were chosen as those described in Health Canada's PQRA or DQRA guidance documents unless otherwise stated.

A country foods survey has not been completed in support of the HHERA, however may be considered as part of a Follow-Up Program for confirming the predictions made in the HHERA. Ingestion rates for country foods by members of Indigenous communities were obtained from Chan et al. in the report entitled *"First Nations Food, Nutrition and Environment Study (FNFNES): Results from Ontario (2011/2012)"* published by the University of Ottawa and dated 2014. Ecozone number 2, "Boreal Shield/ Northeast" from the study was chosen to be most representative of the Indigenous communities in the vicinity of the Goliath Gold Project given the geographical location. The Chan et al., study published values for adults only. The proportional difference among the intake rates for wild meat, fish and other vegetables provided by Health Canada in the PQRA guidance (2012) were used to estimate intake rates for the toddler, child and teen based on the intake rate for the Adult published by Chan et al. 2014.

**Project Worker**

A Project Worker is assumed to be an adult who may work within Study Area No. 1, the Operations Area, during all Project Phases. The results of the Human Health Supplemental Screening presented in Section 4.1.3, indicated that a quantitative assessment of potential risks to a Project Worker are required via direct contact with waste rock and TSF supernatant water.

Ingestion of surface water as a drinking water source is also a potentially operable pathway for a Project Worker, however, considering that a Project Worker may also be a Resident, the drinking water pathway for the Project Worker is conservatively assessed via the Resident exposure scenario. Ingestion of country foods is not required in an employment related exposure scenario as per Health Canada guidance for PQRA/DQRA.

A Project Worker is assumed to be exposed for 10 hours per day all of which are spent outside, for 5 days a week and 48 weeks per year. For carcinogenic chemicals, the Project Worker is anticipated to be exposed for 35 years over an 80-year life expectancy.

The receptor characteristics for a Project Worker are described in Table 4.3.2-1. The exposure characteristics for a Project Worker exposure scenario are described in Table 4.3.2-2.

**Resident**

A Resident is assumed to be all ages from birth through adult (i.e., Infant, Toddler, Child, Teen, and Adult), who may reside within Study Area No. 2 the HHERA Local Study Area, or Study Area No. 3 the Village of Wabigoon. A Resident may also reside within Study Area No. 1 during the Post-Closure phase of the Project. The results of the Human Health Supplemental Screening presented in Section 4.1.3, indicated that a quantitative assessment of potential risks to a Resident are required via ingestion of country foods, and ingestion of surface water as drinking water/recreational use.

A Resident is assumed to be exposed for 24 hours per day, 7 days per week, for 52 weeks per year. When calculating exposure and potential risk to carcinogenic compounds, the lifestage age for each Resident receptor was considered and a life expectancy of 80 years has been assumed. For safety purposes the Operations Area will only be accessible to Project Workers during the active life of the Project, thus exposure to Project-specific media in the Operations Area for an infant, toddler, child, and teen is not considered in the calculation of dose or risk for a composite cancer receptor, as it is not an operable pathway of exposure. For conservatism in the assessment of potential risk via the ingestion of country foods, all Residents are conservatively assumed to be members of an Indigenous community whom may ingest country foods at higher rates that the general public. A Resident is assumed to consume country food 365 days per year.

The country foods ingested by Residents in Study Area No. 1, which may only occur during the Post-Closure phase of the Project, are conservatively assumed to be comprised of 50% of the country foods modelled via uptake from Study Area No. 1, 25% from Study Area No. 2, and 25% from Study Area No. 3.

The country foods ingested by Residents in Study Area No. 2 are assumed to be comprised of 5% of the country foods modelled via uptake from Study Area No. 1 (therefore, exposed to Project-specific media), and 50% from Study Area No. 2, and 45% from Study Area No. 3.

The country foods ingested by Residents in Study Area No. 3 are assumed to be comprised of 5% of the country foods modelled via uptake from Study Area No. 1 (therefore, exposed to Project-specific media), and 45% from Study Area No. 2, and 50% from Study Area No. 3.

The generic assumptions provided for a Resident for the ingestion of country foods are considered to represent the most conservative approach to the assessment of this pathway. However, it is likely that the ingestion rates of country foods may differ among each community and be higher for elders in the communities (i.e., 40+ years) relative to younger members of the communities due to evolving changes to the traditional lifestyle. A country foods survey may be considered as part of a Follow-Up Program or ongoing monitoring of the Project to employ a more site-specific and community-specific approach to the country foods assessment. For the purposes of the current study, the default values are considered to represent a conservative approach and thereby avoid any potential under-estimation of potential risks.

The receptor characteristics for an Infant, Toddler, Child, Teen, and Adult are described in Table 4.3.2-1. The exposure characteristics for a Resident exposure scenario are described in Table 4.3.2-2.

**Visitor/Harvester**

A Visitor/Harvester receptor represents those who practice traditional land and resource use in the areas surrounding the Goliath Gold Project. Based on the traditional knowledge shared with Treasury Metals during meaningful engagement activities, and the information Treasury Metals has received from the Métis Nation of Ontario a Traditional Knowledge and Land Use Study (TKLUS) for the Goliath Gold Project, traditional land and resource use has been conservatively assumed to currently occur in all three Study Areas. For Health and Safety purposes, a visitor/harvester will not be permitted access to the Operations Area during the active phases of the project, however traditional land and resource use may resume during post-closure. The Visitor/Harvester is assumed to include all ages from birth through adult (i.e., Infant, Toddler, Child, Teen, and Adult), who may reside within Study Area No. 2 the HHERA Local Study Area, or Study Area No. 3 the Village of Wabigoon. A Visitor/Harvester is different than a Resident in that it is representative of those who may not reside in close proximity to the Project, and therefore will travel to the area less frequently, perhaps for traditional land use purposes including gathering, hunting, fishing, or cultural/ spiritual practices.

The results of the Human Health Supplemental Screening presented in Section 4.1.3, indicated that a quantitative assessment of potential risks to a Visitor/Harvester are required via ingestion of country foods, and ingestion of surface water as drinking water/recreational use.

Activities associated with harvesting are assumed to occur for 24 hours per day, 7 days per week, for 13 weeks per year to environmental media, however a Visitor/Harvester may ingest country foods 365 days per year. When calculating exposure and potential risk to carcinogenic compounds, the lifestage age for each Visitor/Harvester receptor was considered and a life expectancy of 80 years has been assumed. For safety purposes the Operations Area will only be accessible to Project Workers during the active life of the Project, thus exposure to Project-specific media in the Operations Area for an infant, toddler, child, and teen is not considered in the calculation of dose or risk for a composite cancer receptor, as it is not an operable pathway of exposure. For conservatism in the assessment of potential risk via the ingestion of country foods, all Visitors/Harvesters are conservatively assumed to be members of an Indigenous community whom may ingest country foods at higher rates that the general public. A Visitor/Harvester is assumed to consume country food 365 days per year.

The country foods ingested by Visitors/Harvesters in Study Area No. 1, which may only occur during the Post-Closure phase of the Project, are conservatively assumed to be comprised of 50% of the country foods modelled via uptake from Study Area No. 1, 25% from Study Area No. 2, and 25% from Study Area No. 3.

The country foods ingested by Visitors/Harvesters in Study Area No. 2 are assumed to be comprised of 5% of the country foods modelled via uptake from Study Area No. 1 (therefore, exposed to Project-specific media), and 50% from Study Area No. 2, and 45% from Study Area No. 3.

The country foods ingested by Visitors/Harvesters in Study Area No. 3 are assumed to be comprised of 5% of the country foods modelled via uptake from Study Area No. 1 (therefore, exposed to Project-specific media), and 45% from Study Area No. 2, and 50% from Study Area No. 3.

The assumptions provided for a Visitor/Harvester for the ingestion of country foods are considered to represent the most conservative approach to the assessment of this pathway. However, it is likely that the ingestion rates of country foods may differ among each community and be higher for elders in the communities (i.e., 40+ years) relative to younger members of the communities due to evolving changes to the traditional lifestyle. A country foods survey may be considered as part of a Follow-Up Program or

ongoing monitoring of the Project to employ a more site-specific and community-specific approach to the country foods assessment. For the purposes of the current study, the default values are considered to represent a conservative approach and thereby avoid any potential under-estimation of potential risks.

The receptor characteristics for an Infant, Toddler, Child, Teen, and Adult are described in Table 4.3.2-1. The exposure characteristics for a Visitor/Harvester exposure scenario are described in Table 4.3.2-2.

**Table 4.3.2-1: Characteristics of Human Receptors**

| Receptor Characteristic | Receptor | | | | | | Reference |
|---|---|---|---|---|---|---|---|
| | Infant | Toddler | Child | Teen | Adult | Worker | |
| Age | 0 - 6 mo. | 7 mo. - 4 y | 5 - 11 y | 12 - 19 y | ≥20 y | ≥20 y | Health Canada |
| Lifestage Length (y) | 0.5 | 4.5 | 7 | 8 | 60 | 60 | Health Canada |
| Body weight (kg) | 8.2 | 16.5 | 32.9 | 59.7 | 70.7 | 70.7 | Health Canada |
| Soil ingestion rate (kg/d) | $2.00\times10^{-5}$ | $8.00\times10^{-5}$ | $2.00\times10^{-5}$ | $2.00\times10^{-5}$ | $2.00\times10^{-5}$ | $1.00\times10^{-4}$ | Health Canada |
| Inhalation rate ($m^3$/d) | 2.2 | 8.3 | 14.5 | 15.6 | 16.6 | 33.6 | Health Canada |
| Water ingestion rate (L/d) | 0.3 | 0.6 | 0.8 | 1 | 1.5 | 0.21* | Health Canada<br>*US EPA Exposure Handbook |
| Time spent outdoors (h/d) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 10 | Health Canada |
| Time spent outdoors (h/d) - applied | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 10 | Health Canada |
| Skin surface area ($cm^2$) | | | | | | | |
| *- hands* | 320 | 430 | 590 | 800 | 890 | 890 | Health Canada |
| *- arms* | 550 | 890 | 1480 | 2230 | 2500 | 2500 | Health Canada |
| *- legs* | 910 | 1690 | 3070 | 4970 | 5720 | 5720 | Health Canada |
| *- exposed area, not hands* | 1460 | 2580 | 4550 | 7200 | 8220 | 8220 | Calculated |
| *- total* | 3620 | 6130 | 10140 | 15470 | 17640 | 6250* | Health Canada, *Assumed (based on exposure to arms, half legs and hands) |
| Soil loading to exposed skin ($g/cm^2$/event) | | | | | | | |
| *- hands* | $1.0\times10^{-4}$ | $1.0\times10^{-4}$ | $1.0\times10^{-4}$ | $1.0\times10^{-4}$ | $1.0\times10^{-4}$ | $1.0\times10^{-3}$ | Health Canada |
| *- surfaces other than hands* | $1.0\times10^{-5}$ | $1.0\times10^{-5}$ | $1.0\times10^{-5}$ | $1.0\times10^{-5}$ | $1.0\times10^{-5}$ | $1.0\times10^{-4}$ | Health Canada |
| Food ingestion (kg/d) | | | | | | | |
| *– consumption of berries* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | 0 | Chan et al., 2014 |
| *– consumption of medicinal plants (Labrador Tea)* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | 0 | Chan et al., 2014 |
| *–consumption of wild rice (macrophytes)* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | 0 | Chan et al., 2014 |
| *–consumption of root vegetable* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | 0 | Chan et al., 2014 |
| *– consumption of higher tropic level fish* | 0 | 0.0032 | 0.0210 | 0.0067 | 0.0074 | 0 | Chan et al., 2014 |
| *–consumption of Moose* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | 0 | Chan et al., 2014 |
| *–consumption of Mallard Duck* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | 0 | Chan et al., 2014 |
| *–consumption of Ruffed Grouse* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | 0 | Chan et al., 2014 |
| *–consumption of Snowshoe Hare* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | 0 | Chan et al., 2014 |

**Table 4.3.2-2: Exposure Frequency and Duration**

| Exposure Characteristic | Receptor | | | | | | |
|---|---|---|---|---|---|---|---|
| | Infant | Toddler | Child | Teen | Adult | Worker | Reference |
| **Resident Exposure Scenario[1]** | | | | | | | |
| Hours per day (hours) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Hours per day (outdoors) | — | — | — | — | — | — | Health Canada |
| Days per week (days) | 7 | 7 | 7 | 7 | 7 | — | Health Canada |
| Weeks per year (weeks) | 52 | 52 | 52 | 52 | 52 | — | Health Canada |
| Dermal exposure events per day (events per day) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Water contact events per day (events per day) | 2 | 2 | 2 | 2 | 2 | — | Health Canada |
| Duration of water contact event (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | — | Health Canada |
| Days per year of contaminated food ingestion (days) | 365 | 365 | 365 | 365 | 365 | — | Health Canada |
| Exposure Duration (years) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| **Project Worker Exposure Scenario[2]** | | | | | | | |
| Hours per day (hours) | — | — | — | — | — | 10 | Health Canada |
| Hours per day (outdoors) | — | — | — | — | — | 10 | Health Canada |
| Days per week (days) | — | — | — | — | — | 5 | Health Canada |
| Weeks per year (weeks) | — | — | — | — | — | 48 | Project-Specific Value |
| Dermal exposure events per day (events per day) | — | — | — | — | — | 1 | Health Canada |
| Water contact events per day (events per day) | — | — | — | — | — | 1 | Health Canada |
| Duration of water contact event (hours) | — | — | — | — | — | 0.5 | Health Canada |
| Days per year of contaminated food ingestion (days) | — | — | — | — | — | 365 | Health Canada |
| Exposure Duration (years) | — | — | — | — | — | 35 | Health Canada |
| Years for carcinogen amortization (years) | — | — | — | — | — | 80 | Health Canada |
| **Visitor/ Harvester Exposure Scenario[3]** | | | | | | | |
| Hours per day (hours) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Hours per day (outdoors) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Days per week (days) | 7 | 7 | 7 | 7 | 7 | — | Health Canada |
| Weeks per year (weeks) | 13 | 13 | 13 | 13 | 13 | — | Health Canada |
| Dermal exposure events per day (events per day) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Water contact events per day (events per day) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Duration of water contact event (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | — | Health Canada |
| Days per year of contaminated food ingestion (days) | 365 | 365 | 365 | 365 | 365 | — | Health Canada |
| Exposure Duration (years) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| Years for carcinogen amortization (years) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |

| NOTES: | | |
|---|---|---|
| | 1 | Health Canada PQRA 2010 Guidance for Residential Exposure Scenario Applied |
| | 2 | Health Canada PQRA 2010 Guidance for a Construction/Utility Worker Exposure Scenario considered with site-specific weeks per year (i.e., 42 not 13) |
| | 3 | Health Canada PQRA 2010 Guidance for Remote Wild Lands Exposure Scenario Applied |

### 4.3.3 Exposure Estimates

Exposure to COCs in environmental and Project-specific media may occur through inhalation, direct contact (incidental ingestion and dermal contact) and via ingestion of country foods. The exposure estimates are presented on a pathway specific basis herein, however the exposure via the sum of all operable exposure pathways is considered as part of the determination of residual adverse effects (Section 4.6 of the HHERA).

The following summarizes the COC selection process and HHRA supplemental screening and therefore defines the requirements of selecting exposure equations:

- No COCs (other than the CACs assessed in Section 3.5) were identified in air, therefore a quantitative assessment including exposure assessment for the inhalation of fugitive dust pathway is not required. Inhalation of fugitive fist was considered as part of the total exposure from all operable pathways for determination of residual adverse effects. The exposure equation for inhalation of fugitive dust is provided as Equation 4.3.3-1.

- Nine (9) COCs were selected in surface water, however none exceeded their respective human health supplemental screening criteria for the protection of drinking water. Although a quantitative assessment for the direct contact with surface water pathway is not required, it was considered as part of the total exposure from all operable pathways for determination of residual adverse effects. The exposure equation for ingestion of water and dermal contact are provided as Equation 4.3.3-2 and Equation 4.3.3-3, respectively.

- Eight (8) COCs were identified in waste rock of which arsenic and lead exceeded their component values protective of the direct contact pathway, therefore, direct dermal contact and incidental ingestion exposure equations are required. The exposure equation for incidental ingestion of waste rock as Equation 4.3.4-4 and the direct dermal contact with waste rock exposure equation is provided as Equation 4.3.3-5.

- Eleven (11) COCs were identified in TSF supernatant water, five (5) of which exceeded their respective supplemental screening criteria for human health. Thus, the incidental ingestion and direct dermal contact pathways required quantitative assessment. Exposure equations for dermal contact and ingestion of water will be employed for assessing TSF supernatant water. The exposure equation for dermal contact and ingestion of water are provided as Equation 4.3.3-2 and Equation 4.3.3-3, respectively.

Any chemical that was identified as a COC in any of the environmental or Project-specific media in Section 3 of the HHERA, were modelled into country foods. The exposure equation for the ingestion of country foods is provided as Equation 4.3.3-5.

In the assessment of exposure, a relative absorption factor (RAF) is applied, which accounts for the bioavailability of each COC (i.e., the amount of chemical absorbed into the body). The relative absorption factor has been assumed to be 1 for the ingestion exposure route. A value of 1 represent 100% of the delivered dose as being absorbed.

In the assessment of exposure to waste rock, application of a RAF for the dermal exposure is warranted as the TRVs are based on oral exposure. The application of the RAF adjusts the exposure to take into account

the difference in the bioavailability of COC through dermal exposure to that of oral exposure. Dermal RAFs for waste rock were required for arsenic and lead. The arsenic dermal RAF was obtained from Health Canada PQRA. A dermal RAF for lead was not available from Health Canada and was obtained from the MOEE, 1996.

Example calculations are provided in Appendix III- Sample Calculations.

#### 4.3.3.1 Inhalation of Fugitive Dust

The exposure equation for the ingestion of impacted water is that provided by Health Canada in their PQRA guidance document.

$$Dose = \frac{(C_A \times CF) \times IR_A \times RAF_i \times D_2 \times D_3 \times D_4}{BW \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_A$ = Chemical Concentration Sorbed to Total Particulate Matter (Section 3.5.3.2) (µg/m$^3$)

CF= conversion factor µg/m$^3$ to mg/m$^3$

$IR_W$ = Ingestion Rate (L/day)

$RAF_i$ = Relative Inhalation Absorption Factor (unitless)

$D_2$ = Days per week exposed/ 7 days

$D_3$ = Weeks per year exposed/ 52 weeks

$D_4$ = Total years exposed (years) (carcinogens only)

BW = Body Weight (kg)

LE = Life Expectancy (years) (carcinogens only)

#### 4.3.3.2 Dermal Contact and Incidental Ingestion of Water

The exposure equation for the ingestion of impacted water is that provided by Health Canada in their PQRA guidance document.

For the ingestion pathway surface water was conservatively assumed to be drinking water as represented by a drinking water ingestion rate. Ingestion of TSF supernatant water was assumed to be incidental by a Project Worker. The US EPA 2011 exposure factors handbook provides an average incidental ingestion rate of 21 mL per hour for adults while swimming (total of 210 ml for a 10 hr day), which is considered conservative for this exposure scenario. Exposure via the ingestion pathway is dependent on the COC concentration in the environmental or Project-specific media, the water intake rate of the receptor, and

the number of days per year that exposures are likely to occur (i.e., the frequency and duration of exposure).

Health Canada DQRA guidance directs the risk assessor to the US EPA document entitled *"Dermal Exposure Assessment: Principals and Applications"* dated January 1992 for the equation for calculating dermal contact with water. The permeability from water coefficients ($K_p$) applied in this HHRA were obtained from the USEPA guidance document.

The general equation used to calculate the dose due to water ingestion and dermal contact are as follows:

***Equation 4.3.3-1: Water Ingestion:***

$$Dose = \frac{C_W \times IR_W \times RAF_o \times D_2 \times D_3 \times D_4}{BW \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_W$ = Chemical Concentration in Water EPC (mg/L)

$IR_W$ = Ingestion Rate (L/day)

$RAF_o$ = Relative Oral Absorption Factor (unitless)

$D_2$ = Days per week exposed/ 7 days

$D_3$ = Weeks per year exposed/ 52 weeks

$D_4$ = Total years exposed (years) (carcinogens only)

BW = Body Weight (kg)

LE = Life Expectancy (years) (carcinogens only)

***Equation 4.3.3-2: Water Dermal Contact:***

***A) Dermal Exposure per Event***

$$Dermal\ Exposure\ per\ Event = C_W \times CF \times K_\rho \times Duration$$

Where:

Dermal Contact per Event = mg/cm$^2$- event

$C_w$ = Chemical Concentration in Water, EPC (mg/L)

CF= Conversion Factor (L/cm$^3$)

Kp = Permeability coefficient (cm/hr) (assumed generic for inorganics of 0.01 cm/hr and applied chemical specific value of 2.46 × 10$^{-3}$ cm/hr for methylmercury, US EPA 1992)

Duration = Duration of water exposure event (hr/event)

***B) Dose of Water Dermal Exposure***

$$Dose = \frac{(Dermal\ Exposure\ per\ Event\ \times Events\ per\ Day \times\ SA_T) \times\ D_2 \times D_3 \times D_4}{BW\ \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$SA_T$= Total surface area exposed (cm$^2$) (sum of SA of hands, arms, legs, exposed area not hands for each receptor, i.e assumes submerged)

$D_2$ = Days per week exposed/ 7 days

$D_3$ = Weeks per year exposed/ 52 weeks

$D_4$ = Total years exposed (years) (carcinogens only)

BW = Body Weight (kg)

LE = Life Expectancy (years) (carcinogens only)

#### 4.3.3.3 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

The equations to calculate exposure of a Project Worker to the TSF Supernatant Water via incidental ingestion and dermal contact are the same as those described above for Water (Section 4.3.3.1).

#### 4.3.3.4 Dermal Contact and Incidental Ingestion of Waste Rock

In this assessment, dermal exposures were summed with oral exposures. In general, for the incidental ingestion pathway, the exposure to COCs in waste rock depends on the COC concentration, amount of waste rock ingested on a daily basis (in mg/day), and the number of days per year that exposures are likely to occur (i.e., the frequency and duration of exposure). For the dermal exposure pathway, exposure to COCs in waste rock depends on the COC concentration, skin surface area exposed and the number of days per year that exposures are likely to occur.

The general equation used to calculate the dose due to waste rock ingestion and dermal contact are as follows:

***Equation 4.3.3-3 Waste Rock Ingestion:***

$$Dose = \frac{C_{WR} \times IR_{WR} \times RAF_o \times D_2 \times D_3 \times D_4}{BW \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_{WR}$ = Chemical Concentration in Waste Rock, EPC (mg/kg or µg/g)

$IR_{WR}$ = Ingestion Rate (mg/day)

$RAF_o$ = Relative Oral Absorption Factor (unitless)

$D_2$ = Days per week exposed/ 7 days

$D_3$ = Weeks per year exposed/ 52 weeks

$D_4$ = Total years exposed (years) (carcinogens only)

BW = Body Weight (kg)

LE = Life Expectancy (years) (carcinogens only)

***Equation 4.3.3-4 Waste Rock Dermal Contact:***

$$Dose = \frac{((C_{WR} \times SA_H \times SL_H) + (C_{WR} \times SA_o \times SL_o)) \times RAF_D \times D_2 \times D_3 \times D_4}{BW \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_{WR}$ = Chemical Concentration in Waste Rock, EPC (mg/kg or µg/g)

$SA_H$= Surface area of hands exposed for loading ($cm^2$)

$SL_H$= Loading rate to exposed skin of hands ($kg/cm^2$-event)

$SA_o$= Surface area exposed other than hands ($cm^2$)

$SL_o$= Loading rate to exposed skin other than hands ($kg/cm^2$-event)

$RAF_D$= Relative Dermal Absorption Factor (unitless)

$D_2$ = Days per week exposed/ 7 days

$D_3$ = Weeks per year exposed/ 52 weeks

$D_4$ = Total years exposed (years) (carcinogens only)

BW = Body Weight (kg)

LE = Life Expectancy (years) (carcinogens only)

The soil ingestion rate, and soil loading rates provided by Health Canada were conservatively adopted for waste rock. This is a conservative estimate as waste rock is anticipated to adhere to skin less than soil due to the absence of organic matter and moisture content.

#### 4.3.3.5 Ingestion of Country Foods

Exposure via ingestion of country foods is dependant on the food ingestion rate of the specific receptor, the body weight of that receptor and the proportion of the diet from each country food. Ingestion rates of the nine country foods were obtained from Health Canada or Chan et al. (2014) and were specific to ingestion rates of members of Indigenous communities. The equation used to calculate the dose due to ingestion of country foods is are as follows:

***Equation 4.3.3-5 Country Foods Ingestion:***

$$Dose = \frac{(\sum(C_{Foodi} \times IR_{Foodi} \times RAF_{Orali} \times D_i)) \times D_4}{BW \times 365 \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or

Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_{Food}$ = Chemical Concentration in $Food_i$, EPC (mg/kg or µg/g)

$IR_{Food}$ = Food Ingestion Rate (mg/day)

$RAF_o$ = Relative Oral Absorption Factor (unitless)

$D_i$ = Days per year during which $Food_i$ is consumed

$D_4$ = Total years exposed (for carcinogens only)

365= Total days per year (constant)

BW = Body Weight (kg)

LE= Life Expectancy (years) (carcinogens only)

### 4.3.4 Calculation of Average Daily Dose

A quantitative estimation of exposure for non-carcinogens is referred to herein as the average daily dose. For pathways determined to require a quantitative estimate of exposure as per the HHRA problem formulation, exposure estimates were generated for all Assessment Scenarios (i.e., Base Case, Project Alone Case, and Project Case). Regardless of individual pathways requiring quantitative assessment, the

total exposure from the sum of all pathways was also included for determination of residual adverse effects in Section 4.7.

The following pathways required a quantitative exposure estimate based on the HHRA problem formulation:

1. **Ingestion and Dermal Contact with TSF Supernatant Water-** exposures are estimated for a Project Worker on Study Area No. 1 exposed during the Operations phase of the Project.

2. **Ingestion and Dermal Contact with Waste Rock -** exposures are estimated for a Project Worker on Study Area No. 1 exposed during all phases of the Project.

3. **Ingestion of Country Foods**- exposures are estimated for a Resident residing within Study Area No. 2 and 3, and for a Visitor/ Harvester of Study Area No. 2 and 3, for all phases of the Project. Country foods are also assessed for a Resident of Study Area No. 1 during the Post-Closure phase of the Project (there is no access to Study Area No. 1 until Post-Closure).

The following pathways were considered in the calculation of total exposure from all exposure pathways for determination of residual adverse effects (see IR HHRA-03). The results are provided in Section 4.6.

1. **Inhalation of Fugitive Dust -** exposures are estimated for all receptors/ exposure scenarios (i.e., Project Worker, Resident and Visitor/ Harvester).

2. **Ingestion and Dermal Contact with Surface Water-** exposures are estimated for all receptors/ exposure scenarios (i.e., Project Worker, Resident and Visitor/ Harvester).

3. **Ingestion and Dermal Contact with TSF Supernatant Water-** exposures are estimated for a Project Worker on Study Area No. 1 exposed during the Operations phase of the Project.

4. **Ingestion and Dermal Contact with Waste Rock -** exposures are estimated for a Project Worker on Study Area No. 1 exposed during all phases of the Project.

5. **Ingestion of Country Foods**- exposures are estimated for a Resident residing within Study Area No. 2 and 3, and for a Visitor/ Harvester of Study Area No. 2 and 3, for all phases of the Project. Country foods are also assessed for a Resident of Study Area No. 1 during the Post-Closure phase of the Project (there is no access to Study Area No. 1 until Post-Closure).

The Goliath Gold Project HHERA model was employed to calculate the non-cancer average daily exposure dose for each COC and associated pathway requiring quantitative assessment. In total, 81 model simulations were required to capture all Study Areas, Assessment Scenarios, Project Phases, and Receptor Exposure Scenarios for the non-cancer assessment, and 54 for the cancer assessment. A summary of average daily doses for the toddler, adult, and worker receptors for the various exposure scenarios requiring quantitative assessment has been provided herein, and the full model outputs of calculated exposure are provided in Appendix V “Model Outputs”.

#### 4.3.4.1 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

Arsenic, cyanide, lead, mercury, methylmercury and thallium were identified as human health COCs in the TSF supernatant water. Workers may be exposed to TSF supernatant water during the Operations phase of the Project via dermal contact or incidental ingestion. There is no applicable Base Case for comparison for the TSF supernatant water. For simplicity, exposures for dermal contact and ingestion of water are presented as the sum of the exposure calculated for dermal contact and ingestion of surface water pathways. The expose doses for a Project Worker via contact with TSF supernatant water are provided in Table 4.3.4.1-1. Full exposure dose details are provided in Appendix V to the HHERA Report.

Project Worker exposure to lead in TSF supernatant water is calculated without dose averaging. The exposure estimates are presented in Section 4.3.6-Calculation of Exposure to Lead.

#### 4.3.4.2 Dermal Contact and Incidental Ingestion of Waste Rock

Arsenic and lead were identified as COCs in waste rock requiring quantitative assessment of the direct contact pathway for workers. Project Workers may be exposed to waste rock during all Project phases from Site Preparation and Construction through Closure via dermal contact or incidental ingestion. For simplicity, exposures for dermal contact and ingestion of waste rock are presented as the sum of the exposure calculated for dermal contact and ingestion of waste rock pathways. The expose doses for a Project Worker via contact with waste rock are provided in Table 4.3.4.2-1. Full exposure dose details are provided in Appendix V to the HHERA Report.

Project Worker exposure to lead in waste rock is calculated without dose averaging the daily. The exposure estimates are presented in Section 4.3.6-Calculation of Exposure to Lead.

**Table 4.3.4.1-1 Worker Average Daily Dose via Dermal Contact and Ingestion of TSF Supernatant Water (Study Area No. 1 Only)**

| Contaminant of Concern | Non-Cancer Exposure Estimate (mg/kg/day) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | $4.5 \times 10^{-6}$ | — | — | — | $4.5\times 10^{-6}$ | — | — |
| Arsenic | — | — | $4.0 \times 10^{-5}$ | — | — | — | $4.0 \times 10^{-5}$ | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | $2.2 \times 10^{-3}$ | — | — | — | $2.2 \times 10^{-3}$ | — | — |
| Lead | — | — | —[1] | — | — | — | —[1] | — | — |
| Mercury | — | — | $4.0 \times 10^{-6}$ | — | — | — | $4.0 \times 10^{-6}$ | — | — |
| Methylmercury | — | — | $3.7 \times 10^{-6}$ | — | — | — | $3.7 \times 10^{-6}$ | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | $1.4 \times 10^{-3}$ | — | — | — | $1.4 \times 10^{-3}$ | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

NOTES:

Units All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

—[1] The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6.

**Table 4.3.4.2-1 Worker Average Daily Dose via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1 Only)**

| Contaminant of Concern | Non-Cancer Exposure Estimate (mg/kg/day) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case[2] | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure[1] | Site Preparation and Construction | Operations | Closure | Post-Closure[1] |
| **PROJECT WORKER** | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $4.7 \times 10^{-6}$ | $2.7 \times 10^{-5}$ | $2.7 \times 10^{-5}$ | $2.7 \times 10^{-5}$ | $3.0 \times 10^{-7}$ | $2.7 \times 10^{-5}$ | $2.7 \times 10^{-5}$ | $2.7 \times 10^{-5}$ | $5.1 \times 10^{-6}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |
| —[1] | The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6. |
| 2 | Soil concentrations applied. Waste rock is not an operable pathway of exposure in the existing environment or during the Post-Closure phase of the Project. |

#### 4.3.4.3 Ingestion of Country Foods

Exposure doses of COCs in country foods via uptake from environmental and Project-specific media for Study Area Nos. 1, 2 and 3, are presented in Table 4.3.4.4-1A for the residential exposure scenario, and Table 4.3.4.4-1B for the visitor/harvester exposure scenario. Project Workers are not assessed for the ingestion of country foods pathway. Resident and Visitor/Harvester exposure to lead in country foods is calculated without dose averaging. The exposure estimates are presented in Section 4.3.6-Calculation of Exposure to Lead.

For simplicity, the exposure doses have been presented as the sum of exposure via ingestion of the nine country foods considered for a Toddler and an Adult receptor, for both the resident and visitor/harvester exposure scenarios. For the Project Alone and Project Assessment Scenarios, the exposure doses have also been presented as the sum of exposure for all Project phases. The complete exposure dose data set broken down by Project phase, receptor, and country food for each of the three Study Areas and all Assessment Scenarios, is provided in Appendix V.

All EPC for country foods were based on the concentration in the application source media as described in Table 3.6-1 (i.e., environmental or Project-specific media) multiplied by an uptake factor obtained from literature (Appendix II). The HHERA Goliath Gold Project Model was used to calculate chemical concentrations (provided in Appendix IV) and was driven by a series of key assumptions (provided in Table 3.6-1) with respect to dominant source of exposure media (i.e., environmental or Project-specific media) in the terrestrial and aquatic environment. The exception to this is that wild rice (i.e., macrophytes), moose and fish (i.e., modelled fish) concentrations were predicted based on uptake from surface water rather than TSF supernatant water as under no circumstances will wild rice grow in the TSF, moose have access, or fish inhabit the TSF, therefore eliminating the TSF as an operable pathway of exposure for these three country foods.

In previous draft versions of the HHERA submitted to the Agency and their reviewers, "measured fish" concentrations were used in the Base Case Assessment whereas "modelled fish" were used in the Project Aline and Project Assessment Scenarios. At the request of the Agency, the January (Round 2) HHERA submission has been updated to use the "modelled fish" chemical concentrations data for all assessment scenarios including the Base Case. The results of the previous approach have been moved to Appendix VII- Sensitivity Analysis of the current HHERA. As described in detail in Section 3.6.3.1, this will result in artificially high risk estimates for methylmercury via the ingestion of fish, as the "modelled fish" data is modelled from detection limits of the surface water data given that no methylmercury was measured about the detection limit in any of the 114 samples submitted for chemical analysis. A risk communication plan would mitigate the perception of potential risk, however there is a regional fish advisory in place already for methylmercury in fish and residents are advised to continue to follow the advisories set by the province.

While the use of "modelled fish" data may lead to an overestimate of risk, comparision of the "modelled fish" and "measured fish" concentration data indicates that the measured concentration of zinc in fish was 162% higher than the modelled concentration thereby suggesting that exposure to zinc via fish ingestion may be a source of uncertainty. A Follow-Up Program may be used to determine site-specific uptake factors of zinc in fish or monitoring efforts in support of the Follow-Up Program may provide updated zinc concentration data specific to each Project Phase to reduce the uncertainty associated with zinc.

During meaningful engagement activities in support of the EIS (April 2018), members of several Indigenous communities identified locations where they practice their current use of lands and resources for traditional purposes which included areas that fall within the Operations Area and the LSA. As such, traditional use of land and resources including hunting, fishing, trapping, and harvesting/gathering of plants is conservatively assumed to occur in all areas of Study Area No. 1 the Operations Area, and Study Area No. 2 the LSA, including areas within the Property Boundary. For safety purposes, access to Study Area No. 1 the Operations Area will be restricted to only employees of Treasury Metals during the active phases of the Project (i.e., Site Preparation and Construction, Operations, and Closure) and no country foods will be harvested from the Operations Area during these Project Phases. Country foods harvesting may resume at Study Area No. 1 the Operations Area during the Post-Closure phase of the Project. Although restricting access to human receptors within the Operations Area is a reasonable administrative control for public safety, restricting access to mobile animals such as birds (e.g., grouse and duck) and small mammals (e.g., rabbit) may not be feasible or 100% effective. Thus, these ecological receptors (and country food items) may be exposed to Project-specific media within the Operations Area and then consumed either by larger predatory species or human receptors off-site. Therefore, an assumption was made that 5% of the country foods consumed by human receptors in Study Areas No. 2 and 3 may come from the Operations Area during the Site Preparation and Construction, Operations, and Closure phases of the Project. These assumptions are considered conservative as there will be minimal habitat available for ecological receptors/country food items within the Operations Area during the active phases of the Project, and by the nature of the assumptions it is assumed that the receptors receive 100% of their diet from foods ingestion within the Operations Area. Furthermore, it has been shared with Treasury Metals by members of Indigenous Communities that moose population levels are low and observances of moose in the area are rare. Therefore, for some country food items (such as moose which is included in the exposure model), the assumption that they would access the Operations Area and therefore be exposed to Project-specific media may not in fact be an operable exposure pathway. For the Base Case Assessment Scenario and for Post-Closure Phase in Project Alone and Project Assessment Scenarios, 50% of the country foods ingested at Study Area No. 1 were assumed to be harvested from Study Area No. 1 and 25% and 25% from Study Areas No. 2 and 3, respectively. Exposure doses of COCs in country foods via uptake from environmental and Project-specific media for Study Area No. 1, the Operations Area are presented in Table 4.3.4.3-1.

During the life of the Project, Residents and Visitors/Harvesters will have access to some areas of the HHERA LSA including areas outside of the Operations Area but within the Property Boundary to practice their current use of lands and resources for traditional purposes including hunting, trapping, fishing and collecting/gathering of plants for consumption. For all Assessment Scenarios and Project Phases, 50% of the country foods ingested at Study Area No. 2 were assumed to be harvested from Study Area No. 2 and 45% and 5% from Study Areas No. 3 and 1, respectively. Exposure doses of COCs in country foods via uptake from environmental and Project-specific media for Study Area No. 2, the HHERA LSA are presented in Table 4.3.4.3-1.

No disruption to country foods harvesting practices within Study Area No. 3 is anticipated as a result of the Project. For all Assessment Scenarios and Project Phases, 50% of the country foods ingested at Study Area No. 3 were assumed to be harvested from Study Area No. 3 and 45% and 5% from Study Areas No. 2 and 1, respectively. Exposure doses of COCs in country foods via uptake from environmental and Project-specific media for Study Area No. 3, the Village of Wabigoon are presented in Table 4.3.4.3-1.

For the country food ingestion pathway, exposure doses for Resident and a Visitor/Harvester are equal given that they both are assumed to consume country foods 365 days per year.

**Table 4.3.4.3-1A: Resident Average Daily Dose via Ingestion of Country Foods**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases |
| **TODDLER** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | $6.4 \times 10^{-3}$ | $4.1 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ |
| Antimony | $2.3 \times 10^{-5}$ | $8.1 \times 10^{-7}$ | $2.4 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $5.8 \times 10^{-6}$ | $2.8 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $5.8 \times 10^{-6}$ | $2.8 \times 10^{-5}$ |
| Arsenic | $3.4 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $3.4 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $8.4 \times 10^{-6}$ | $4.1 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $8.4 \times 10^{-6}$ | $4.1 \times 10^{-5}$ |
| Cadmium | $5.8 \times 10^{-5}$ | $4.2 \times 10^{-7}$ | $5.8 \times 10^{-5}$ | $5.8 \times 10^{-5}$ | $2.9 \times 10^{-6}$ | $6.0 \times 10^{-5}$ | $5.8 \times 10^{-5}$ | $2.9 \times 10^{-6}$ | $6.0 \times 10^{-5}$ |
| Cobalt | $1.9 \times 10^{-3}$ | $3.2 \times 10^{-6}$ | $1.7 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $3.6 \times 10^{-5}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $3.6 \times 10^{-5}$ | $1.9 \times 10^{-3}$ |
| Copper | $3.0 \times 10^{-3}$ | $1.0 \times 10^{-4}$ | $3.1 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $3.1 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $3.1 \times 10^{-3}$ |
| Cyanide | $2.6 \times 10^{-4}$ | $1.3 \times 10^{-7}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $2.6 \times 10^{-4}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $1.6 \times 10^{-5}$ | $2.2 \times 10^{-7}$ | $1.6 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $2.5 \times 10^{-6}$ | $1.8 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $2.5 \times 10^{-6}$ | $1.8 \times 10^{-5}$ |
| Methylmercury | $4.0 \times 10^{-4}$ | $1.0 \times 10^{-11}$ | $4.0 \times 10^{-4}$ | $4.0 \times 10^{-4}$ | $1.1 \times 10^{-8}$ | $4.0 \times 10^{-4}$ | $4.0 \times 10^{-4}$ | $1.1 \times 10^{-8}$ | $4.0 \times 10^{-4}$ |
| Silver | $1.6 \times 10^{-5}$ | $3.6 \times 10^{-7}$ | $1.7 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $1.7 \times 10^{-6}$ | $1.8 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $1.7 \times 10^{-6}$ | $1.8 \times 10^{-5}$ |
| Thallium | $1.6 \times 10^{-4}$ | $1.8 \times 10^{-7}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $1.8 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $1.8 \times 10^{-4}$ |
| Uranium | $3.7 \times 10^{-4}$ | $4.4 \times 10^{-8}$ | $3.7 \times 10^{-4}$ | $3.7 \times 10^{-4}$ | $2.3 \times 10^{-7}$ | $3.7 \times 10^{-4}$ | $3.7 \times 10^{-4}$ | $2.3 \times 10^{-7}$ | $3.7 \times 10^{-4}$ |
| Zinc | $8.5 \times 10^{-2}$ | $3.8 \times 10^{-3}$ | $8.9 \times 10^{-2}$ | $8.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $8.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ |
| **ADULT** | | | | | | | | | |
| Aluminum | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $2.2 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ |
| Antimony | $1.2 \times 10^{-5}$ | $4.5 \times 10^{-7}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $3.2 \times 10^{-6}$ | $1.5 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $3.2 \times 10^{-6}$ | $1.5 \times 10^{-5}$ |
| Arsenic | $2.1 \times 10^{-5}$ | $6.4 \times 10^{-7}$ | $2.1 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $5.3 \times 10^{-6}$ | $2.5 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $5.3 \times 10^{-6}$ | $2.5 \times 10^{-5}$ |
| Cadmium | $3.2 \times 10^{-5}$ | $2.8 \times 10^{-7}$ | $3.2 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $1.9 \times 10^{-6}$ | $3.3 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $1.9 \times 10^{-6}$ | $3.3 \times 10^{-5}$ |
| Cobalt | $1.1 \times 10^{-3}$ | $2.0 \times 10^{-6}$ | $1.0 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $2.3 \times 10^{-5}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $2.3 \times 10^{-5}$ | $1.1 \times 10^{-3}$ |
| Copper | $1.9 \times 10^{-3}$ | $6.4 \times 10^{-5}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.2 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.2 \times 10^{-4}$ | $1.9 \times 10^{-3}$ |
| Cyanide | $1.5 \times 10^{-4}$ | $9.4 \times 10^{-8}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-6}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-6}$ | $1.5 \times 10^{-4}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $9.3 \times 10^{-6}$ | $1.3 \times 10^{-7}$ | $9.4 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $1.6 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $9.3 \times 10^{-6}$ | $1.6 \times 10^{-6}$ | $1.1 \times 10^{-5}$ |
| Methylmercury | $2.2 \times 10^{-4}$ | $7.7 \times 10^{-12}$ | $2.2 \times 10^{-4}$ | $2.2 \times 10^{-4}$ | $6.1 \times 10^{-9}$ | $2.2 \times 10^{-4}$ | $2.2 \times 10^{-4}$ | $6.1 \times 10^{-9}$ | $2.2 \times 10^{-4}$ |
| Silver | $9.6 \times 10^{-6}$ | $2.4 \times 10^{-7}$ | $9.8 \times 10^{-6}$ | $9.6 \times 10^{-6}$ | $1.2 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $9.6 \times 10^{-6}$ | $1.2 \times 10^{-6}$ | $1.1 \times 10^{-5}$ |
| Thallium | $9.6 \times 10^{-5}$ | $1.3 \times 10^{-7}$ | $9.6 \times 10^{-5}$ | $9.6 \times 10^{-5}$ | $6.8 \times 10^{-7}$ | $1.1 \times 10^{-4}$ | $9.6 \times 10^{-5}$ | $6.8 \times 10^{-7}$ | $1.1 \times 10^{-4}$ |
| Uranium | $1.8 \times 10^{-4}$ | $2.4 \times 10^{-8}$ | $1.8 \times 10^{-4}$ | $1.8 \times 10^{-4}$ | $1.2 \times 10^{-7}$ | $1.8 \times 10^{-4}$ | $1.8 \times 10^{-4}$ | $1.2 \times 10^{-7}$ | $1.8 \times 10^{-4}$ |
| Zinc | $6.1 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $6.4 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $7.7 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $7.7 \times 10^{-2}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |
| —[1] | The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6. |

**Table 4.3.4.3-1B: Visitor/Harvester Average Daily Dose via Ingestion of Country Foods**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases | Base Case | Project Alone Case Maximum of Exposure- All Project Phases | Project Case Maximum of Exposure- All Project Phases |
| **TODDLER** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | $6.4 \times 10^{-3}$ | $4.1 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ |
| Antimony | $2.3 \times 10^{-5}$ | $8.1 \times 10^{-7}$ | $2.4 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $5.8 \times 10^{-6}$ | $2.8 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $5.8 \times 10^{-6}$ | $2.8 \times 10^{-5}$ |
| Arsenic | $3.4 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $3.4 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $8.4 \times 10^{-6}$ | $4.1 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $8.4 \times 10^{-6}$ | $4.1 \times 10^{-5}$ |
| Cadmium | $5.8 \times 10^{-5}$ | $4.2 \times 10^{-7}$ | $5.8 \times 10^{-5}$ | $5.8 \times 10^{-5}$ | $2.9 \times 10^{-6}$ | $6.0 \times 10^{-5}$ | $5.8 \times 10^{-5}$ | $2.9 \times 10^{-6}$ | $6.0 \times 10^{-5}$ |
| Cobalt | $1.9 \times 10^{-3}$ | $3.2 \times 10^{-6}$ | $1.7 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $3.6 \times 10^{-5}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $3.6 \times 10^{-5}$ | $1.9 \times 10^{-3}$ |
| Copper | $3.0 \times 10^{-3}$ | $1.0 \times 10^{-4}$ | $3.1 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $3.1 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $3.1 \times 10^{-3}$ |
| Cyanide | $2.6 \times 10^{-4}$ | $1.3 \times 10^{-7}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $2.6 \times 10^{-4}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $1.6 \times 10^{-5}$ | $2.2 \times 10^{-7}$ | $1.6 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $2.5 \times 10^{-6}$ | $1.8 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $2.5 \times 10^{-6}$ | $1.8 \times 10^{-5}$ |
| Methylmercury | $4.0 \times 10^{-4}$ | $1.0 \times 10^{-11}$ | $4.0 \times 10^{-4}$ | $4.0 \times 10^{-4}$ | $1.1 \times 10^{-8}$ | $4.0 \times 10^{-4}$ | $4.0 \times 10^{-4}$ | $1.1 \times 10^{-8}$ | $4.0 \times 10^{-4}$ |
| Silver | $1.6 \times 10^{-5}$ | $3.6 \times 10^{-7}$ | $1.7 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $1.7 \times 10^{-6}$ | $1.8 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $1.7 \times 10^{-6}$ | $1.8 \times 10^{-5}$ |
| Thallium | $1.6 \times 10^{-4}$ | $1.8 \times 10^{-7}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $1.8 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $1.8 \times 10^{-4}$ |
| Uranium | $3.7 \times 10^{-4}$ | $4.4 \times 10^{-8}$ | $3.7 \times 10^{-4}$ | $3.7 \times 10^{-4}$ | $2.3 \times 10^{-7}$ | $3.7 \times 10^{-4}$ | $3.7 \times 10^{-4}$ | $2.3 \times 10^{-7}$ | $3.7 \times 10^{-4}$ |
| Zinc | $8.5 \times 10^{-2}$ | $3.8 \times 10^{-3}$ | $8.9 \times 10^{-2}$ | $8.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $8.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ |
| **ADULT** | | | | | | | | | |
| Aluminum | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $2.2 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ |
| Antimony | $1.2 \times 10^{-5}$ | $4.5 \times 10^{-7}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $3.2 \times 10^{-6}$ | $1.5 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $3.2 \times 10^{-6}$ | $1.5 \times 10^{-5}$ |
| Arsenic | $2.1 \times 10^{-5}$ | $6.4 \times 10^{-7}$ | $2.1 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $5.3 \times 10^{-6}$ | $2.5 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $5.3 \times 10^{-6}$ | $2.5 \times 10^{-5}$ |
| Cadmium | $3.2 \times 10^{-5}$ | $2.8 \times 10^{-7}$ | $3.2 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $1.9 \times 10^{-6}$ | $3.3 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $1.9 \times 10^{-6}$ | $3.3 \times 10^{-5}$ |
| Cobalt | $1.1 \times 10^{-3}$ | $2.0 \times 10^{-6}$ | $1.0 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $2.3 \times 10^{-5}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $2.3 \times 10^{-5}$ | $1.1 \times 10^{-3}$ |
| Copper | $1.9 \times 10^{-3}$ | $6.4 \times 10^{-5}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.2 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.2 \times 10^{-4}$ | $1.9 \times 10^{-3}$ |
| Cyanide | $1.5 \times 10^{-4}$ | $9.4 \times 10^{-8}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-6}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-6}$ | $1.5 \times 10^{-4}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $9.3 \times 10^{-6}$ | $1.3 \times 10^{-7}$ | $9.4 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $1.6 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $9.3 \times 10^{-6}$ | $1.6 \times 10^{-6}$ | $1.1 \times 10^{-5}$ |
| Methylmercury | $2.2 \times 10^{-4}$ | $7.7 \times 10^{-12}$ | $2.2 \times 10^{-4}$ | $2.2 \times 10^{-4}$ | $6.1 \times 10^{-9}$ | $2.2 \times 10^{-4}$ | $2.2 \times 10^{-4}$ | $6.1 \times 10^{-9}$ | $2.2 \times 10^{-4}$ |
| Silver | $9.6 \times 10^{-6}$ | $2.4 \times 10^{-7}$ | $9.8 \times 10^{-6}$ | $9.6 \times 10^{-6}$ | $1.2 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $9.6 \times 10^{-6}$ | $1.2 \times 10^{-6}$ | $1.1 \times 10^{-5}$ |
| Thallium | $9.6 \times 10^{-5}$ | $1.3 \times 10^{-7}$ | $9.6 \times 10^{-5}$ | $9.6 \times 10^{-5}$ | $6.8 \times 10^{-7}$ | $1.1 \times 10^{-4}$ | $9.6 \times 10^{-5}$ | $6.8 \times 10^{-7}$ | $1.1 \times 10^{-4}$ |
| Uranium | $1.8 \times 10^{-4}$ | $2.4 \times 10^{-8}$ | $1.8 \times 10^{-4}$ | $1.8 \times 10^{-4}$ | $1.2 \times 10^{-7}$ | $1.8 \times 10^{-4}$ | $1.8 \times 10^{-4}$ | $1.2 \times 10^{-7}$ | $1.8 \times 10^{-4}$ |
| Zinc | $6.1 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $6.4 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $7.7 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $7.7 \times 10^{-2}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |
| —[1] | The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6. |

### 4.3.5 Calculation of Lifetime Average Daily Dose

For non-threshold chemicals, it is appropriate to provide lifetime estimates of risk based on lifetime exposure rates, referred to as the lifetime average daily dose. Chemical toxicity is discussed in the previous section of this report (Section 4.2). The lifetime average daily dose is calculated for a Composite Cancer Receptor assumed to have an 80-year life expectancy. For safety purposes, the Operations Area will only be accessible to Project Workers during the active life of the Project, thus exposure to Project-specific media in the Operations Area for an infant, toddler, child, and teen is not considered in the calculation of dose or risk for a Composite Cancer Receptor, as it is not an operable pathway of exposure. The Composite Cancer Receptor is conservatively assessed for both the Resident and Visitor / Harvester Exposure Scenario. A Project Worker would only spend a maximum of 17 years working on the Project Site, all of which would be as an Adult, whereas the Resident or Visitor / Harvester may Resident or visit one or more of the Study Areas for through all life stages (i.e., infant through adulthood, or 80 years). The model was used to estimate lifetime average daily dose for all possible exposure permutations.

Given the complex nature of the problem formulation (i.e., 3 Assessment Scenarios, 3 Study Areas, 4 Project Phases), 3 lifetime average daily dose scenarios, referred to "Offset Scenarios", have been considered in the estimation of potential exposure for the Composite Cancer Receptor. The Offset Scenarios are described in detail below for the Base Case, Project Alone and Project Assessment Scenarios. In the Base Case, the exposure doses are equal for all three Offset Scenarios given that the Composite Cancer Receptor is only exposed to current (baseline) conditions for all 80 years of their life. The calculation becomes more complicated when assessing the potential effects of the Project. For the Project-Alone Assessment Scenario, and Project Assessment Scenario, the calculation of the lifetime average daily dose requires that exposure be weighted across various life stages of a receptor and in this case the various stages of the Project (i.e., existing (baseline conditions), Site Preparation and Construction, Operations, Closure and Post-Closure).

A summary of lifetime average daily doses for the Composite Cancer Receptor for the various exposure pathways requiring quantitative assessment has been provided herein, and the full model outputs of calculated exposure are provided in Appendix V.

For the country food ingestion pathway, exposure doses for Resident and a Visitor / Harvester are equal given that they both are assumed to consume country foods 365 days per year.

***Offset Scenario 1:***

For the Project Alone and Project Assessment Scenarios, Offset Scenario 1 describes a scenario where the Composite Cancer Receptor's birth corresponds to 21 years prior to the start of the Project and therefore spends a larger amount of time exposed to the existing environment rather than the Project. For simplicity, an infant life stage length has been assumed to be 1 year rather than the Health Canada default of 6 months. The Composite Cancer Receptor for Offset Scenario 1 is thus potentially exposed to the various phases of the Project (and associated potential exposure/risk) for:

- Existing (Baseline) Environment: 1 year as an infant, 4 years as a toddler, 7 years as a child, 8 years as a teen, and 1 year as an adult;
- Site Preparations and Construction: 2 years as an adult (which includes exposure by a Project Worker);

- Operations: 12 years as an adult (which includes exposure by a Project Worker);
- Closure: 3 years as an adult (which includes exposure by a Project Worker); and
- Post-Closure: 60 years as an adult.

These years of exposure for each Project phase correspond to $D_4$ in the lifetime average daily dose equations described in Section 4.3.3 above**.**

Offset Scenario 1 at Study Area No. 1 is therefore protective of a Project Worker who may already be a Resident of the area surrounding the Project and then may become employed as a Project Worker for the Life of a Project, and then following Closure of the Project remain, living, or practicing traditional land and resource use in the area.

For the Base Case Assessment Scenario, the Composite Cancer Receptor is exposed to the current baseline conditions for the entirely of their 80-year life expectancy. Offset Scenario 1 for the Base Case Assessment Scenario is demonstrated in Figure 4.3.5-1A below.

Offset Scenario 1 for Project Alone and Project Assessment Scenarios is demonstrated in Figure 4.3.5-1B below.

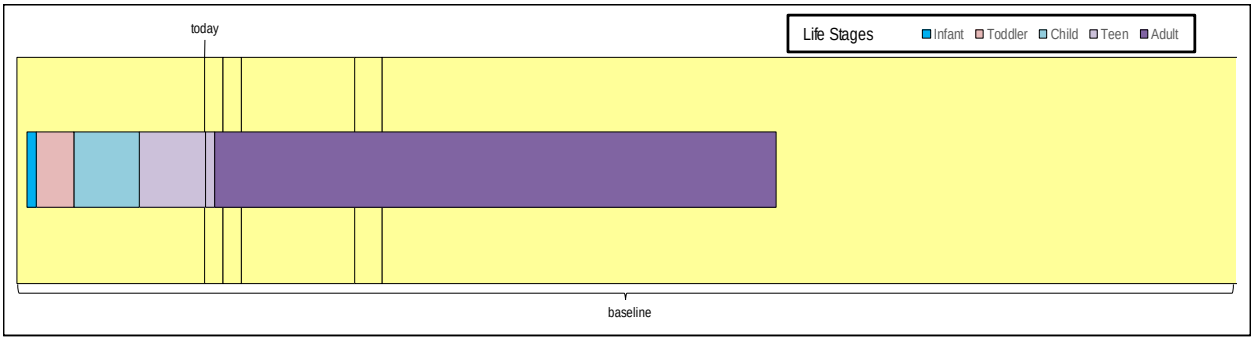



**Figure 4.3.5-1A: Conceptual Figure of Off-Scenario 1 (Base Case Assessment Scenario)**

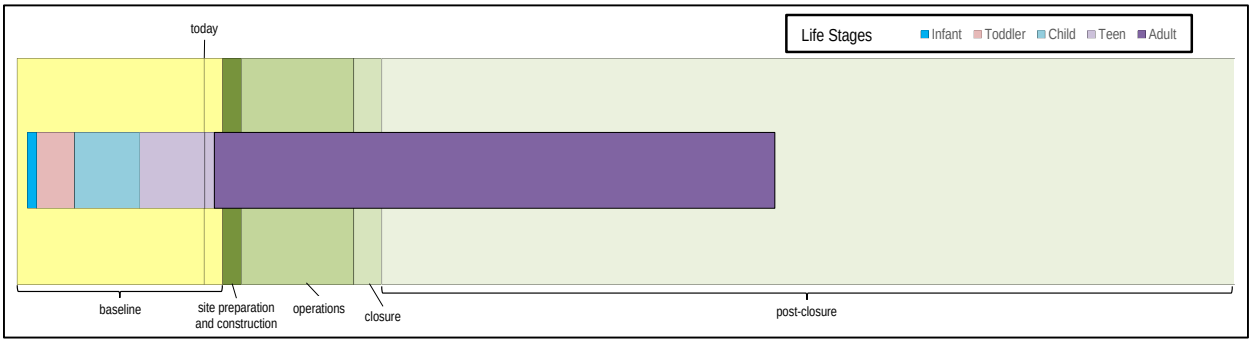



**Figure 4.3.5-1B: Conceptual Figure of Off-Scenario 1 (Project Alone and Project Assessment Scenarios)**

**Offset Scenario 2:**

For the Project Alone and Project Assessment Scenarios, Offset Scenario 2 describes a scenario where the Composite Cancer Receptor's birth corresponds to the start of the Project. For simplicity, an infant lifestage length has been assumed to be 1 year rather than the Health Canada default of 6 months. The Composite Cancer Receptor for Offset Scenario 2 is thus potentially exposed to the various phases of the Project (and associated potential exposure/risk) for:

- Existing (Baseline) Environment: 0 years;
- Site Preparations and Construction: 1 year as an infant and 1 year as a toddler;
- Operations: 3 years as a toddler, 7 years as a child and 2 years a teen;
- Closure: 3 years as a teen; and
- Post-Closure: 60 years as an adult.

The application of Offset Scenario 2 is considered reasonable for Study Area No. 2 and Study Area No. 3. Its application at Study Area No. 1 would be unreasonably conservative as it would assume that an infant, toddler, child and teen would have unrestricted access to the Operations Area and all Project- specific media, including using the TSF Supernatant Water as drinking water. Therefore, exposure to Project-specific media (i.e., waste rock and TSF Supernatant Water) during these life stages was removed from the calculation of exposure dose for a Composite Cancer Receptor at Study Area No. 1.

These years of exposure for each Project phase correspond to $D_4$ in the lifetime average daily dose equations described in Section 4.3.3 above.

For the Base Case Assessment Scenario, the Composite Cancer Receptor is exposed to the current baseline conditions for the entirely of their 80-year life expectancy. Offset Scenario 2 for the Base Case Assessment Scenario is demonstrated in Figure 4.3.5-2A below.

Offset Scenario 1 for Project Alone and Project Assessment Scenarios is demonstrated in Figure 4.3.5-2B below.

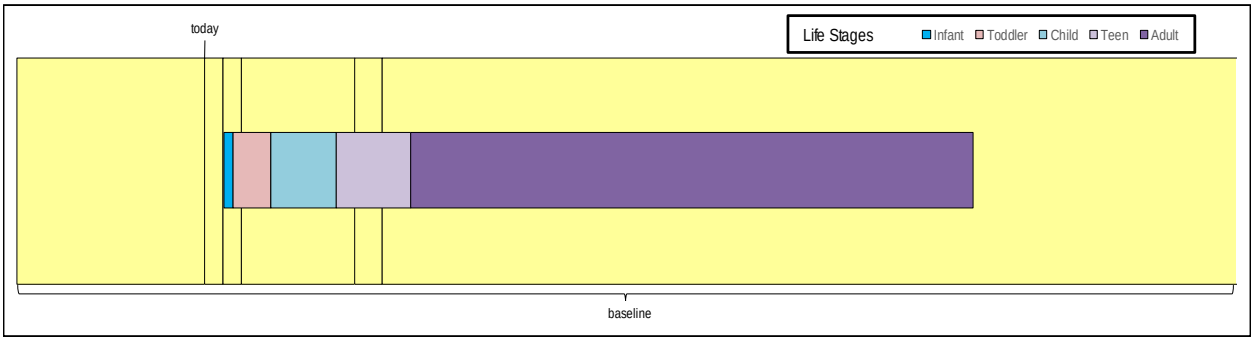



**Figure 4.3.5-2A: Conceptual Figure of Off-Scenario 2 (Base Case Assessment Scenario)**

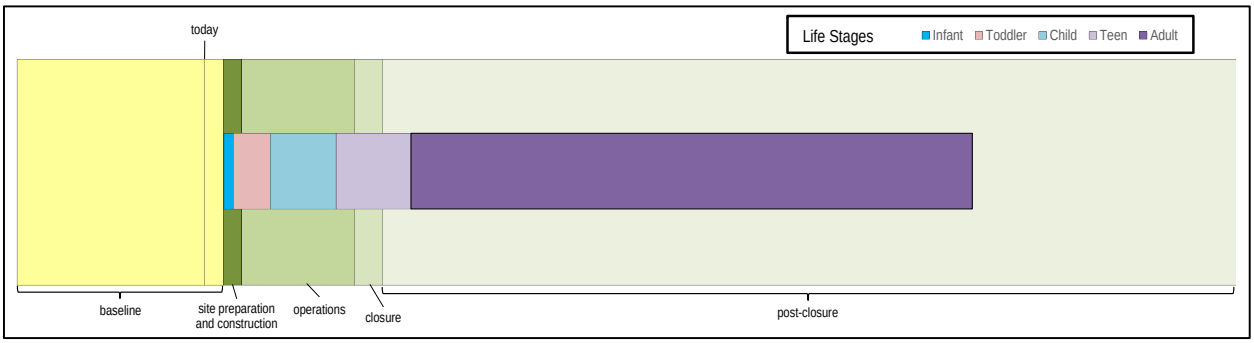



**Figure 4.3.5-2B: Conceptual Figure of Off-Scenario 2 (Project Alone and Project Assessment Scenarios)**

**Offset Scenario 3:**

For the Project Alone and Project Assessment Scenarios, Offset Scenario 3 describes a scenario where the Composite Cancer Receptor's birth corresponds to 21 years after to the start of the Project and therefore spends their entire life exposed to the Post-Closure conditions of the Project. A Composite Cancer Receptor in Offset Scenario 3 is not alive during and thus exposed to the active phases of the Project, and associated Project-specific media. For simplicity, an infant life stage length has been assumed to be 1 year rather than the Health Canada default of 6 months. The Composite Cancer Receptor for Offset Scenario 3 is thus potentially exposed to the various phases of the Project (and associated potential exposure/risk) for:

- Existing (Baseline) Environment: 0 years;
- Site Preparations and Construction: 0 years;
- Operations: 0 years;
- Closure: 0 years; and
- Post-Closure: 1 year as an infant, 4 years as a toddler, 7 years as a child, 8 years as a teen, and 60 years as an adult.

These years of exposure for each Project phase correspond to $D_4$ in the lifetime average daily dose equations described in Section 4.2.3 above.

For the Base Case Assessment Scenario, the Composite Cancer Receptor is exposed to the current baseline conditions for the entirely of their 80-year life expectancy. Offset Scenario 3 for the Base Case Assessment Scenario is demonstrated in Figure 4.3.5-3A below.

Offset Scenario 3 for Project Alone and Project Assessment Scenarios is demonstrated in Figure 4.3.5-3B below.

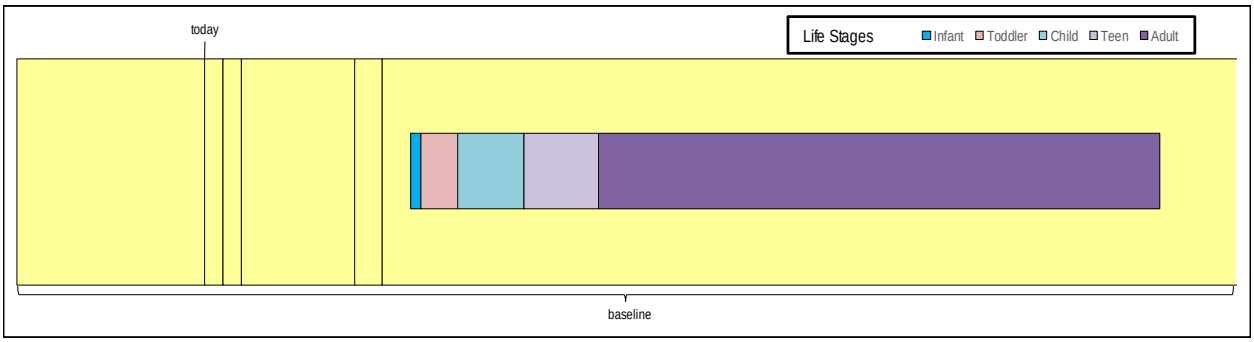



**Figure 4.3.5-3A. Conceptual Figure of Off-Scenario 3 (Base Case Assessment Scenario)**

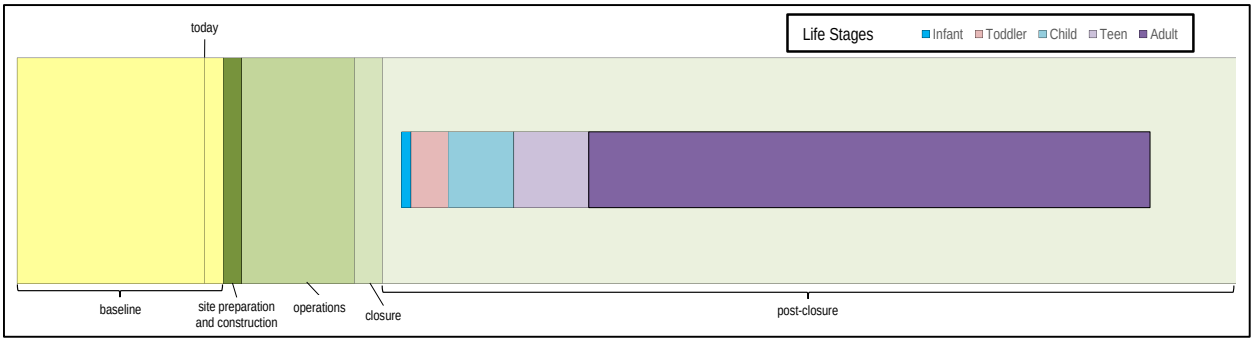



**Figure 4.3.5-3B: Conceptual Figure of Off-Scenario 3 (Project Alone and Project Assessment Scenarios)**

### 4.3.5.1 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

Dermal contact and incidental ingestion of TSF Supernatant Water is only an operable exposure pathway at Study Area No 1., the Operations Area and to a Project Worker during the active phases of the Project

A Project Worker is the only receptor that is exposed to TSF Supernatant Water and only during the active phases of the Project, i.e., Site Preparation and Construction, Operations, and Closure. Offset Scenario 1 describes the case where a human receptor is exposed to waste rock during the active phases of the Project. In Offset Scenario 1 the Project Worker may have been raised from birth through adulthood and then become employed by Treasury Metals as a Project Worker, and then following the Closure of the Project, remain in the area to live, visit, or practice traditional land and resource use.

In Offset Scenario 2 and 3, during the Project phases for which there is exposure to TSF supernatant water (i.e., Site Preparation and Construction, Operations, and Closure), the Composite Cancer Receptor is not of age to work as a Project Worker or has not yet been born, respectively. Thus, Offset Scenario 2 and 3 are not applicable to the exposure of TSF supernatant water pathway. The exposure scenario for a Resident will be conservatively applied for the Project Worker to calculate an arsenic dose for the Composite Cancer Receptor exposed to TSF supernatant water.

There is no TSF exposure in the existing environment i.e., Base Case Assessment Scenario. Project Worker exposure to arsenic in the TSF supernatant Water is provided in Table 4.3.5.1-1.

**Table 4.3.5.1-1: Lifetime Average Daily Dose via Dermal Contact and Incidental Ingestion of TSF Supernatant Water (Study Area No. 1)**

| Exposure Scenario | Contaminant of Concern | Lifetime Average Daily Dose (mg/kg/d) | | |
|---|---|---|---|---|
| | | Base Case | Project Alone Case | Project Case |
| **Offset Scenario 1** | | | | |
| Residential | **Arsenic** | — | $8.8 \times 10^{-5}$ | $9.0 \times 10^{-5}$ |

NOTES:

Units — All units in (mg/kg/day)

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

### 4.3.5.2 Dermal Contact and Incidental Ingestion of Waste Rock

Dermal contact and incidental ingestion of waste rock is only an operable exposure pathway at Study Area No 1., the Operations Area and to a Project Worker during the active phases of the Project.

Arsenic is the only carcinogenic COC in waste rock requiring quantitative assessment of the direct contact pathway. A Project Worker is the only receptor that is exposed to waste rock and only during the active phases of the Project, i.e., Site Preparation and Construction, Operations, and Closure. Offset Scenario 1 describes the case where a human receptor is exposed to waste rock during the active phases of the Project. In Offset Scenario 1 the Project Worker may have been raised from birth through adulthood and then become employed by Treasury Metals as a Project Worker, and then following the Closure of the Project, remain in the area to live, visit, or practice traditional land and resource use.

In Offset Scenario 2 and 3, during the Project phases for which there is exposure to waste rock (i.e., Site Preparation and Construction, Operations, and Closure), the Composite Cancer Receptor is not of age to work as a Project Worker or has not yet been born, respectively. Thus, Offset Scenario 2 and 3 are not applicable to the exposure of waste rock pathway. The exposure scenario for a Resident will be conservatively applied for the Project Worker to calculate an arsenic dose for the Composite Cancer Receptor exposed to waste rock.

There is no waste rock exposure in the existing environment i.e., Base Case Assessment Scenario. The Project Worker exposure to arsenic in waste rock is provided in Table 4.3.5.2-1.

**Table 4.3.5.2-1: Lifetime Average Daily Dose via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1)**

| Exposure Scenario | Contaminant of Concern | Lifetime Average Daily Dose (mg/kg/d) | | |
|---|---|---|---|---|
| | | Base Case | Project Alone Case | Project Case |
| **Offset Scenario 1** | | | | |
| Residential | **Arsenic** | — | $2.8\times10^{-6}$ | $3.4\times10^{-6}$ |

NOTES:

Units All units in (mg/kg/day)

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

### 4.3.5.3 Ingestion of Country Foods

The lifetime average daily dose of arsenic in country foods that a Composite Cancer Receptor will receive from Study Areas Nos. 1, 2 and 3, are presented in Table 4.3.5.3-1, for the Base Case, Project Alone and Project Assessment Scenario. Results for all three Offset Scenarios are presented with the exception of offset scenario 1 and 2 at Study Area No. 1 which is inoperable due to administrative controls restricting access to all except Project Workers during the active phases of the Project.

For the country food ingestion pathway, exposure doses for Resident and a Visitor/Harvester are equal given that they both are assumed to consume country foods 365 days per year. Furthermore, the analysis indicates that the exposure doses are not meaningfully different between any of the offset scenarios.

**Table 4.3.5.3-1: Lifetime Average Daily Dose via Ingestion of Country Foods**

| Exposure Scenario | Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Lifetime Average Daily Dose (mg/kg/d) | | | Lifetime Average Daily Dose (mg/kg/d) | | | Lifetime Average Daily Dose (mg/kg/d) | | |
| | | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| **Offset Scenario 1** | | | | | | | | | | |
| Resident & Visitor/ Harvester | Arsenic | $2.16 \times 10^{-5}$ | — | — | $2.16 \times 10^{-5}$ | $7.46 \times 10^{-6}$ | $2.26 \times 10^{-5}$ | $2.16 \times 10^{-5}$ | $7.46 \times 10^{-6}$ | $2.26 \times 10^{-5}$ |
| **Offset Scenario 2** | | | | | | | | | | |
| Resident & Visitor/ Harvester | Arsenic | $2.16 \times 10^{-5}$ | — | — | $2.16 \times 10^{-5}$ | $1.34 \times 10^{-6}$ | $2.27 \times 10^{-5}$ | $2.16 \times 10^{-5}$ | $1.34 \times 10^{-6}$ | $2.27 \times 10^{-5}$ |
| **Offset Scenario 3** | | | | | | | | | | |
| Resident & Visitor/ Harvester | Arsenic | $2.16 \times 10^{-5}$ | — | — | $2.16 \times 10^{-5}$ | $1.20 \times 10^{-7}$ | $2.17 \times 10^{-5}$ | $2.16 \times 10^{-5}$ | $1.20 \times 10^{-7}$ | $2.17 \times 10^{-5}$ |

NOTES:

Units — All units in (mg/kg/day)
— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

### 4.3.6 Calculation of Exposure to Lead

Due to recent changes in regulatory guidance, lead is no longer considered to be a threshold toxic chemical. Health Canada (2013) and other jurisdictions (California EPA 2009; WHO 2007) currently support the concept that lead and lead compounds are non-threshold substances. The current scientific evidence suggests that previously published exposure limits may not adequately reflect the actual risk related to lead exposure. Current risk assessment guidance requires that lead be assessed without dose averaging employed.

Estimates of lead exposure from TSF supernatant water, waste rock, and country foods are provided in Tables 4.3.6-1, 4.3.6-2, and 4.3.6-3, respectively.

**Table 4.3.6-1 Worker Average Daily Dose to Lead via Dermal Contact and Ingestion of TSF Supernatant Water (Study Area No. 1 Only)**

| Contaminant of Concern | Lead Exposure via Direct Dermal Contact and Incidental Ingestion (mg/kg/day)[1] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Worker | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | — | — | — | — | — | — | — | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | — | — | $2.8 \times 10^{-4}$ | — | — | — | $2.8 \times 10^{-4}$ | — | — |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

NOTES:

Units — All units in mg/kg/day

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

[1] The current scientific evidence requires that lead be assessed without dose averaging employed.

**Table 4.3.6-2 Worker Average Daily Dose to Lead via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1 Only)**

| Contaminant of Concern | Lead Exposure via Direct Dermal Contact and Incidental Ingestion (mg/kg/day) [1] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Worker | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | — | — | — | — | — | — | — | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | $1.5 \times 10^{-5}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $3.2 \times 10^{-6}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $1.8 \times 10^{-5}$ |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |
| [1] | The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6. |

**Table 4.3.6-3 Resident and Visitor/Harvester Average Daily Dose to Lead via Ingestion of Country Foods**

| Lead Exposure via Country Foods Ingestion (mg/kg/day) [1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
| | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases |
| TODDLER | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | — | — | — | — | — | — | — | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | $2.5 \times 10^{-4}$ | $1.9 \times 10^{-5}$ | $2.7 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $6.5 \times 10^{-5}$ | $3.1 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $6.5 \times 10^{-5}$ | $3.1 \times 10^{-4}$ |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |
| ADULT | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | — | — | — | — | — | — | — | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | $1.3 \times 10^{-4}$ | $1.1 \times 10^{-5}$ | $1.4 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $4.0 \times 10^{-5}$ | $1.7 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $4.0 \times 10^{-5}$ | $1.7 \times 10^{-4}$ |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |
| NOTES: | | | | | | | | | |

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |
| 1 | The current scientific evidence requires that lead be assessed without dose averaging employed. Exposure estimates to lead via all operable pathways are provided in Section 4.3.6. |

## 4.4 Risk Characterization

Risk characterization is the step in the risk assessment process that combines the results of the exposure assessment and the toxicity assessment for each COC in order to estimate the potential for non-carcinogenic and carcinogenic human health effect(s), from exposure to that compound.

Provincial regulatory agencies across Canada offer differing guidance on the risk characterization process. The risk characterization methods adopted by the Province of Ontario are accepted for the assessment of potential human health risks associated with the Goliath Gold Project. When characterizing the potential risks posed by exposure to non-carcinogenic substances, Ontario accepts a hazard quotient (HQ) of 0.2 (exposure ≤ 1/5 TRV). For non-carcinogens (i.e., threshold chemicals), potential risk is estimated by calculating the ratio of the estimated exposure to the TRV, which is referred to the hazard quotient (HQ) as follows:

$$Hazard\ Quotient\ (HQ) = \frac{Estimated\ Exposure}{TRV}$$

Therefore, the target HQ for the Base Case, Project Alone and Project Assessment Scenarios will be an HQ of 0.2. It is important to note that the magnitude of the HQ does not necessarily correspond to the magnitude of expected health effects, therefore the results of the risk characterization will be stated as potential risk, and negligible potential risk.

Health Canada in their DQRA guidance document states that in cases, where both on-site and background exposures are combined (i.e. total exposure is being assessed), a HQ ≤ 1.0 will be deemed to represent an acceptable or negligible risk. This is the equivalent of the Assessment Scenarios presented in the current HHRA for the determination of residual adverse effects.

For chemicals with carcinogenic endpoints (i.e., non-threshold chemicals), deemed to be carcinogenic, the estimated exposure (amortized as appropriate) is multiplied by the appropriate oral slope factor or unit risk to derive a conservative estimate of the potential incremental lifetime cancer risk (ILCR) associated with that exposure. The ILCR is derived as:

$$Incremental\ Lifetime\ Cancer\ Risk\ (ILCR) = Exposure\ \times TRV$$

Health Canada indicates that cancer risks will be deemed to be "essentially negligible" where the estimated ILCR is ≤ 1 in 100,000 (≤$1 \times 10^{-5}$). For conservatism, the more conservative Ontario benchmark ILCR of 1 in 1 million ($1 \times 10^{-6}$) has been applied in the assessment of carcinogenic effects in the HHRA for the Goliath Gold Project.

Lead is being assessed through the use of a risk specific dose/ benchmark dose limit (BMDL) based on non-threshold effects as per the European Food Safety Authority (EFSA) guidance document for which the lead TRV described in 4.2 was obtained. As part of the Round 2 information request process, Health Canada requested that the language used with respect to risk associated with exposure to lead. As per the EFSA guidance document, the use of a "margin of exposure (MOE)" is supported for the characterization of lead. MOEs are calculated by dividing the BMDL values derived from human data for the different endpoints by the estimates of dietary exposure, i.e.:

$$Margin\ of\ Exposure\ (MOE) = \frac{Benchmark\ Dose\ Limit\ (BMDL)}{Estimate\ Exposure}$$

The EFSA guidance states that an MOE of 10 or greater should be sufficient to ensure that there was no appreciable risk of a clinically significant effect. At lower MOEs, but greater than 1.0, the risk is likely to be low, but not such that it could be dismissed as of no potential concern.

This section summarizes the results of the risk characterization for each receptor evaluated in the risk assessment.

### 4.4.1 Results of Risk Characterization- Non-Carcinogens

For the following chemicals, which are considered to be non-carcinogens based on the nature of their toxicity, risk is characterized by a hazard quotient (HQ) for each operable exposure pathway- receptor combination, Project Phase and Study Area:

Aluminum
Antimony
Arsenic
Cadmium
Cobalt
Copper
Cyanide
Mercury
Methylmercury
Silver
Thallium
Uranium
Zinc

#### 4.4.1.1 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

Dermal contact and incidental ingestion of TSF Supernatant Water is only an operable exposure pathway at Study Area No 1., the Operations Area and to a Project Worker during the active phases of the Project. The estimated HQs for the Project Worker exposed to TSF supernatant water through incidental ingestion and dermal contact for the Operations phase of the Project for the Project Alone and Project Assessment Scenarios, is provided in Table 4.4.1.1-1. There is no Base Case Assessment Scenario for comparison with respect to Project Worker exposure to the TSF supernatant water.

The EPCs of thallium assumed in the TSF supernatant water are sufficiently high so that if a Project Worker were to be fully submerged or incidentally ingest the water from the TSF on a daily basis, potential risk could not be ruled out.

Project Worker exposure to the TSF supernatant water is expected to be minimal in terms of frequency and duration. Exposure may occur on occasion during routine maintenance and monitoring activities. Under good occupational Health and Safety Practices, a Health and Safety Plan is recommended for Project Workers who may encounter water in the TSF. At a minimum the Health and Safety Plan should require additional personal protective equipment (PPE) such as long sleeves and pants, and a face shield for those Project Workers who are in contact with the TSF supernatant water. With these risk management measures in place, no potential risks are anticipated to a Project Worker via contact with the TSF supernatant water.

For safety purposes access to the Operations Area will be restricted to all except Project Workers, therefore there is no exposure to TSF supernatant water within the Operations Area by Residents or Visitors/Harvesters.

**Table 4.4.1.1-1: Worker Non-Cancer Risk Characterization via Dermal Contact and Ingestion of TSF Supernatant Water (Study Area No. 1 Only)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | $1.1 \times 10^{-2}$ | — | — | — | $1.1 \times 10^{-2}$ | — | — |
| Arsenic | — | — | $1.3 \times 10^{-1}$ | — | — | — | $1.3 \times 10^{-1}$ | — | — |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | $1.1 \times 10^{-1}$ | — | — | — | $1.1 \times 10^{-1}$ | — | — |
| Lead | — | — | —[1] | — | — | — | —[1] | — | — |
| Mercury | — | — | $1.3 \times 10^{-3}$ | — | — | — | $1.3 \times 10^{-3}$ | — | — |
| Methylmercury | — | — | $1.8 \times 10^{-3}$ | — | — | — | $1.8 \times 10^{-3}$ | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | **$1.0 \times 10^{2}$** | — | — | — | **$1.0 \times 10^{2}$** | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| —[1] | Risk Characterization of lead not presented. New regulatory guidance requires that lead be assessed as a non-threshold chemical using a margin of exposure. Refer to Section 4.5 for risk characterization of lead exposure. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 for exposure to non-carcinogenic chemicals |

#### 4.4.1.2 Dermal Contact and Incidental Ingestion of Waste Rock

Dermal contact and incidental ingestion of waste rock is only an operable exposure pathway at Study Area No 1., the Operations Area and to a Project Worker during the active phases of the Project. There is no Base Case Assessment Scenario for comparison with respect to Project Worker exposure to the waste rock. The results of the risk characterization indicate that exposure to arsenic in waste rock by a Project Worker would not exceed the Health Canada target of 0.2.

For safety purposes access to the Operations Area will be restricted to all except Project Workers, therefore there is no exposure to waste rock within the Operations Area by Residents or Visitors/Harvesters. Implementation of a Heath and Safety plan including the prescribe use of personal protective equipment is good construction practice and will be implemented for Project Workers exposed to waste rock.

The non-cancer risk characterization results via the direct contact with waste rock pathway for the Project Worker at Study Area No. 1 are presented in Table 4.4.1.2-1.

**Table 4.4.1.2-1: Worker Non-Cancer Risk Characterization via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1 Only)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | |
| Aluminum | — | — | — | — | — | — | — | — | — |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | — | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $1.0 \times 10^{-3}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $1.7 \times 10^{-2}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | — | — | — | — | — | — | — | — | — |
| Copper | — | — | — | — | — | — | — | — | — |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | — | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | — | — | — | — | — | — | — | — | — |
| Methylmercury | — | — | — | — | — | — | — | — | — |
| Silver | — | — | — | — | — | — | — | — | — |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — | — | — | — |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| —[1] | Risk Characterization of lead not presented. New regulatory guidance requires that lead be assessed as a non-threshold chemical using a margin of exposure. Refer to Section 4.5 for risk characterization of lead exposure. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 for exposure to non-carcinogenic chemicals |

#### 4.4.1.3 Ingestion of Country Foods

The non-cancer risk characterization results via ingestion of country foods pathway for all Study Areas and relevant exposure scenarios are presented in Table 4.4.1.3-1A and 4.4.1.3-1B. For the country food ingestion pathway, exposure doses for Resident and a Visitor/Harvester are equal given that they both are assumed to consume country foods 365 days per year. A detailed model output of all the risk characterization results is provided in Appendix V.

The level of uncertainty associated with the country foods assessment is relatively high due the modelling of chemical concentrations into country foods based on modelled environmental predictions as well as the lack of site-specific uptake factors and measured chemical concentrations data in country food items including plants, mammals, and birds. Overall, the potential risk estimates via ingestion of country foods represent an overestimate of potential risk.

A follow up program for country foods is provided in the Final Goliath Gold Follow Up Program completed as part of the Round 2 information request process. The Follow Up Program Addendum supersedes Section 13 of the revised EIS (April 2018) and all former draft versions of the follow up program addendum. The follow up program for country foods outlines recommendations for receptor and exposure pathway characterization, as well as methods for estimating receptor exposure to baseline levels of COCs in the environment. The follow up program for country foods is consistent with Health Canada's 2018 guidance document entitled *"Guidance for Evaluating Human Health Impacts I Environmental Assessments: Country Foods*", which states that although baseline levels of COCs in country foods should be measured as part of the EA prior to the project start, if these levels have not been measured or are not comprehensive (such as in the current case), then it is recommended that they be identified prior to the project start. As such, the results of the risk characterization for both non-carcinogenic chemicals and carcinogenic chemicals in country foods discussed herein, determined using default Health Canada assumptions, and non-site-specific uptake factors, have been utilized to outline the Follow-Up Program including Monitoring in the Follow-Up Program Addendum.

**Base Case Assessment Scenario**

For the Base Case Assessment Scenario, risk estimates above the Health Canada benchmarks were identified for cobalt, thallium and zinc. The modelled concentration of chemicals in macrophytes/ aquatic plants (i.e., wild rice) and duck contributed the most to the HQ exceedances which all relied on the water to macrophyte uptake factors obtained from Sheppard et al., 2010. As required, the follow up program will include determination of site-specific chemical uptake factors and tissue sampling to confirm the risk characterization results presented herein. Potential risk in the existing environment should not be assumed based on the conservative results presented herein, but rather the results used to determine the scope and aim of a Follow-Up Program for the HHERA. A risk communication plan may be required to mitigate the perception of risk at baseline conditions. Should the Follow-Up Program be unable to rule out potential risk in the existing environment, a regional risk management plan for country foods consumption would serve as a suitable risk management measure. The Follow-Up Program and monitoring associated with the Goliath Gold Project will also be utilized to confirm surface water quality predictions, as well as predictions made for all environmental and Project-specific media. If the Follow-Up Program indicates unacceptable changes to environmental quality an adaptive management approach would be employed as described for each technical discipline in the body of the EIS (April 2018).

**Project Assessment Scenario**

The results of the country food assessment indicate that for the Project Assessment Scenario, the only risk estimates above the Health Canada benchmarks were via the same chemicals identified in the Base Case Assessment Scenario. Figure 4.4.1.3-1 describes the proportion of the hazard quotient contributed by each country food and will be used to guide the follow up program for country foods. The results of the assessment of potential risk via the ingestion of country foods pathway identified risk estimates above the Health Canada benchmarks for cobalt, thallium, and zinc.

- Cobalt: potential risks identified based on an HQ >0.2 however, risk is less than or equal to Base Case for the Project Alone and Project Assessment Scenarios. No potential risk is identified as a result of the Goliath Gold Project. Predicted concentrations of cobalt in moose and macrophytes contributed most to the hazard quotient (Figure 4.4.1.3-1) for the Base Case Assessment Scenario. The follow up program for country foods provided in the Goliath Gold Follow Up Program Addendum describes baseline sampling program for confirming country food concentrations in the existing environment.

- Thallium: potential risks identified, however, the Project is contributing minimally to potential risk relative to Base Case as indicated by the lack of exceedances in the Project Alone Assessment Scenario and the 12% difference in HQ between Project and Base Case. Predicted concentrations of thallium in fish, moose, and macrophytes contributed most to the hazard quotient (Figure 4.4.1.3-1) for the Base Case and subsequently the Project Assessment scenario. The follow up program for country foods provided in the Goliath Gold Follow Up Program Addendum describes baseline sampling program for confirming country food concentrations in the existing environment.

- Zinc: potential risks were identified for the Base Case which marginally increased (20%) for the Project Assessment Scenario. As shown in the Figure 4.4.1.3-1 below, the zinc concentrations in birds (ruffed grouse and mallard duck) contributed most to the hazard quotients. As such, a follow-up program should focus on confirming the baseline concentrations of zinc in these species as well as a site-specific uptake factor to update the predictions.

Risk via ingestion of country foods was characterized using predicted concentrations in country foods as no baseline data were available. At the time the baseline studies were completed the 2018 Health Canada for the assessment of country foods in an EA was unavailable, however has been used to describe the follow up program for human health in the Final Goliath Gold Follow Up Program Addendum. The results indicate that the predicted incremental changes in non-cancer risk values associated with the Goliath Gold Project's will have very little to no effect on the health risks associated with exposure to COCs via country food ingestion to all human receptors at all Study Areas assessed. Potential risk in the existing environment should not be interpreted based on the conservative results presented herein, but rather the results used to determine the scope and aim of a Follow-Up Program. Should the Follow-Up Program be unable to rule out potential risk in the existing environment, a regional risk management plan for country foods consumption would serve as a suitable risk management measure.

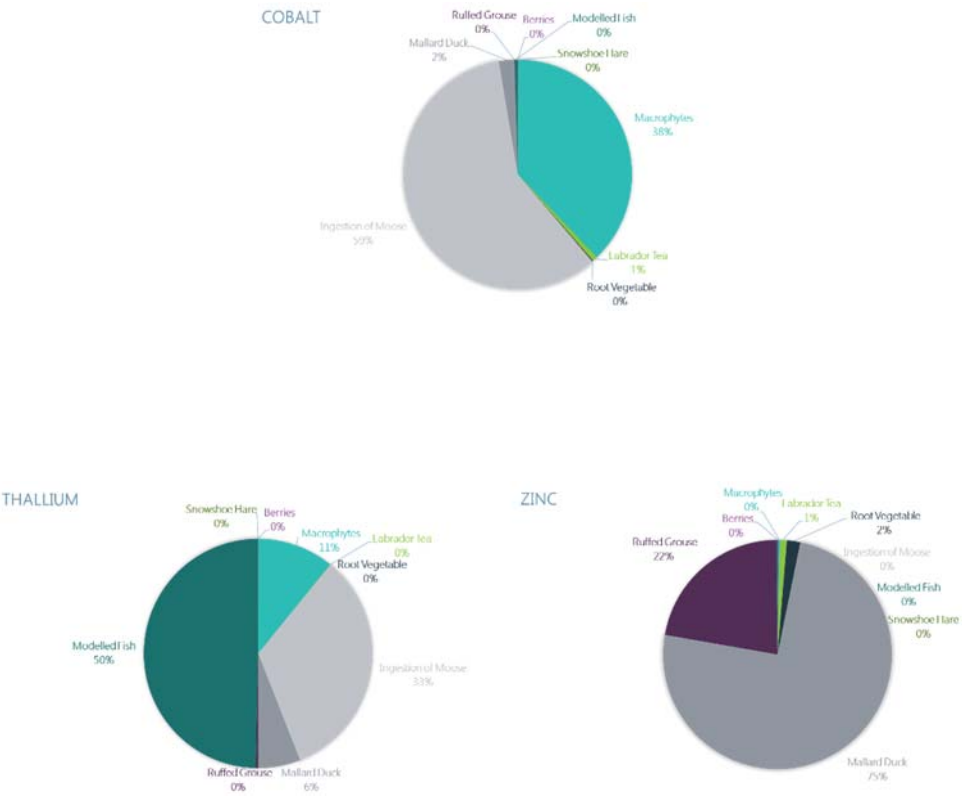



**Figure 4.4.1.3-1 Relative Contributions to Hazard Quotient via Ingestion of Country Foods**

### 4.4.1.4 Ingestion of Fish Specifically

The results of the human health risk assessment of ingestion of fish indicated that there were no health risks anticipated via ingestion of fish. A detailed discussion of the results are provided below.

***Methylmercury***

Throughout ongoing engagement activities, members of several local and regional Indigenous communities shared with Treasury Metals, that ensuring the quality of fish for human consumption is integral to their overall well-being and current use of the lands and resources for traditional purposes. Downstream of the Goliath Gold Project, in the English-Wabigoon River system, methylmercury in fish is known to be a human health concern due to releases of mercury from a mill site in Dryden throughout the 1960s and 1970s. Reports indicate that as high as 90% of the residents of Asubpeeschoseewagong Netum Anishinabek (ANA) (previously referred to as Grassy Narrows First Nation) have shown signs of mercury toxicity.

Treasury Metals is mindful of the burden that members of ANA (and others) have suffered with respect to mercury contamination of the environment and the food on which its members have relied. The

commitment by Treasury Metals related to mercury is 10 times more stringent than the PWQO ($2\times10^{-4}$ mg/L). Furthermore, modeling of effluent quality has indicated that the mercury concentration will be 0.000002 mg/L ($2 \times 10^{-6}$ mg/L) which is one order of magnitude lower than the commitment and two orders of magnitude lower than the PWQO surface water quality guideline. The results of the surface water quality assessment continue to indicate that surface water quality will be largely unchanged as a result of the Project, with resulting water quality being the same as, or slightly improved from the existing condition for most parameters. In the situation where the water quality is predicted to the higher than existing condition, the resulting water quality remains below the PWQO for the protection of aquatic life. There were no residual adverse effects predicted for the surface water quality in Wabigoon Lake, and Thunder Lake and subsequently no adverse effects predicted even further downstream for the Wabigoon River. As there would be no residual effects on water quality within the Wabigoon lake, or downstream in the Wabigoon River system, there are no effects on fish or the fisheries in the local and regional area. Treasury Metals recognizes that the perception of risk, safety and well-being is a concern to members of ANA and other Indigenous communities and has proposed to work with each community to develop a risk communication plan to help mitigate the perceptions of risk, safety and well-being associated with the Goliath Gold Project.

The country foods risk assessment of mercury and methylmercury did not identify risk to human health in any of the assessment scenarios (i.e. the Base Case, Project Alone, or Project Assessment Scenarios). That is to say, the Goliath Gold Project will not cause risks to human health or increase the burden currently suffered by the Indigenous communities downstream ion the English Wabigoon River. This result confirms the results of the surface water quality assessment, that the Goliath Gold Project will not affect the fisheries or the ability of members of Indigenous communities to harvest fish for consumption.

***Thallium***

Hazard quotients of thallium in fish were numerically higher than the Health Canada benchmark of 0.2. The Agency requested that "modelled fish" be used consistently throughout the HHERA and replace the use of "measured fish" in the Base Case Assessment Scenario. As described in Section 3.6.1 of the HHERA, the use of the higher literature derived uptake factors results in "modelled fish" concentrations that are an order of magnitude higher than "measured fish" concentrations measured as part of the baseline studies for select parameters including thallium. Confirmation of thallium concentrations in fish tissue and determination of a site-specific uptake factor for thallium in fish will be completed as part of the follow up for country foods.

Given that thallium has not been identified by the MECP in their Guide to Eating Ontario Fish (see below discussion on fish advisories), the HQ exceedances may be artifact of the conservative assumptions applied herein, and a generic uptake factor. As such, no potential risk is anticipated to humans receptors via the ingestion of fish.

***Fish Consumption Advisories***

Fish represent an important nutritional source in Ontario and this becomes especially true in northern Ontario. Although fish represent a source of high-quality protein, beneficial omega-3 fats, and other nutrients, they also represent a meaningful potential exposure pathway for contaminants including mercury. Based on their size, type, and location, certain fish may be more suitable to eat than others. The MECP provides an interactive tool entitled "a guide to eating Ontario fish". The Guide to Eating Ontario Fish provides easy-to-use information to help choose fish caught from Ontario lakes and rivers to

minimize exposure to toxins. Consumption advice in the guide is based on guidelines provided by Health Canada. As outlined in the MECP's interactive tool, "A guide to eating Ontario fish", a fish consumption advisory is in place for Wabigoon Lake and Thunder Lake. The guide provides recommendations for both the general population and those considered to be members of a sensitive population. The sensitive population includes women of child-bearing age (women who intend to become pregnant or are pregnant) and children younger than 15 years of age. Women of child-bearing age, including pregnant women and nursing mothers, can affect the health of their baby through a diet elevated in contaminants such as mercury and polychlorinated biphenyls. Young children and developing fetuses are affected by contaminants at lower levels than the general population. The guide is based on an average meal of 227 grams of a skinless, boneless dorsal fillet (e.g., a fillet of dinner plate length) for an average size adult weighing 154 pounds. If an average size adult is eating substantially more than 227 grams, which is often the case for Indigenous peoples, than fewer fish should be consumed.

To assist those ingesting fish in Ontario, the MOECC provides fish consumption advisory tables for regions where the ingestion of fish may pose risk to human health. In the area directly surrounding the Project, the MOECC provides a fish consumption advisory for the following lakes and species of fish:

- **Wabigoon Lake**: Black Crappie[1], Cisco (Lake Herring)[1], Lake Whitefish[2], Muskellunge[1], Northern Pike[1], Redhorse Sucker[1,] Rock Bass[1], Sauger[1], Smallmouth Bass[1], Walleye[1], White Sucker[1], and Yellow Perch[1]; and

- **Thunder Lake**: Lake Trout[1,2], Northern Pike[1], Smallmouth Bass[1], Walleye[1], and White Sucker[1].

Superscripts in the consumption tables and in the list above identify the contaminant or group of contaminants that are causing consumption restrictions within a given species/location. In the project area the following two contaminants are considered as part of the consumption advisories:

- **Mercury:** Mercury, is converted to methylmercury and absorbed by a fish either from water passing over its gills or it is ingested with its diet. Since fish eliminate mercury at a very slow rate, concentrations of this substance gradually increase. Fish at the top of the food web such as Walleye and Pike usually have the highest mercury levels.

- **Polychlorinated biphenyls (PCBs):** PCBs are a group of chlorinated organic compounds first commercially developed in the late 1920s and banned in the 1970s. They persist for decades in the natural environment and readily accumulate in the aquatic ecosystem.

Polychlorinated biphenyls were not considered as part of the HHERA as their use in Canada is banned under the Canadian Environmental Protection Act (CEPA, 1999), and there will be no new sources of PCBs into the environment associated with the Goliath Gold Project. Polychlorinated biphenyls represent a group of chlorinated organic compounds that are bioaccumulative and persistent in nature. The fish advisory for PCBs in Thunder Lake is thus based on the historic use of PCBs, prior to them becoming a banned substance in the 1970s.

Chemical concentrations in fish were measured as part of the baseline fisheries work completed in support of the EIS for the Goliath Gold Project by DST in 2012 (DST, 2014 as provided in Appendix P of the EIS [April 2018]). As describes in the DST report, and as summarized in Section 5 of the EIS (April 2018), fish capture efforts on Wabigoon Lake were completed in Keplyn's Bay on September 5th and 6th, 2012. A total of 28 Walleye and one Sauger were caught by angling, only two walleye were captured

among all attempts and netting was abandoned to avoid unnecessary lethal harvest of non-target species. All 31 fish were retained for tissue sampling and ageing. The youngest Walleye were two years old and their length and weights ranged between 230 mm to 272 mm, and 84 g to 125g respectively. The oldest and largest individual was 10 years old, had a total length of 564 mm and weighed 1.9 kg. The Sauger was 10 years old and had a total length of 255 mm and weighed 106 g. Mercury levels ranged from a low of 0.0865 mg/kg to a high of 0.473 mg/kg. As shown in figure 4.4.1.4-1, the predicted HQ as a result of mercury and methylmercury concentrations in the "measured fish" collected as part of the baseline work, were well below the threshold of 0.2 set by Health Canada.

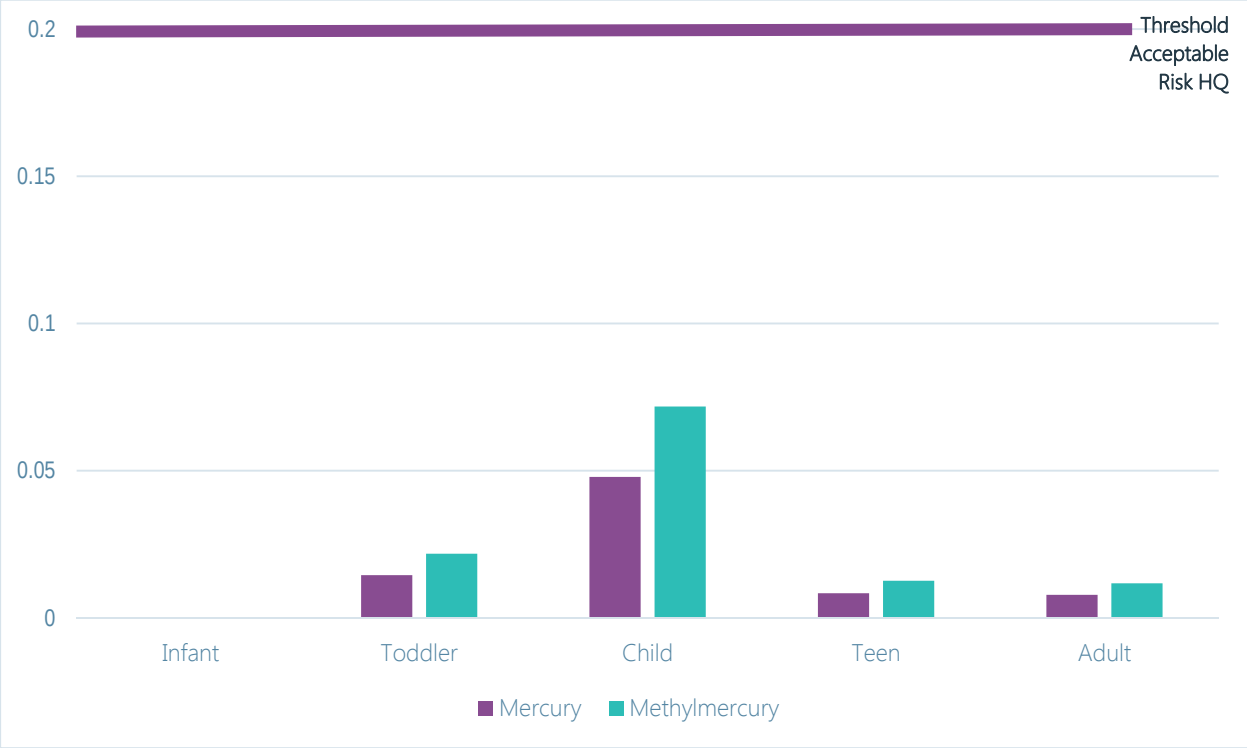



**Figure 4.4.1.4-1: Mercury and Methylmercury Hazard Quotients for Base Case Assessment Scenario (Measured Fish)**

As part of the Round 2 process, the Agency requested that chemical concentrations in "modelled fish" be used in the body of the HHERA instead of "measured fish" to allow for a standardized comparison between the assessment scenarios. As described in Section 3.6.3.1, the use of "modelled fish" resulted in higher mercury and methylmercury in fish than in "measured fish" and therefore all exposure and risk estimates in the HHERA would represent an overestimate of potential risk. The data show in figure 4.4.1.4-1 confirm that based on measured fish data, there are no risks to mercury or methylmercury from the fish collection from Keplyn's Bay.

Although the risk assessment indicated that there were no potential health risks to human receptors via the consumption of fish based on measured chemical concentrations, the fish advisory should still be considered. Based on the fish lengths reported by DST and the guide to eating Ontario fish for Wabigoon Lake, the youngest Walleye should only be consumed between 4 to 12 times a month (depending on if

the individual is a member of a sensitive population or general population). The size of the oldest Walleye is not included in the Ontario fish eating guide indicating that consumption of fish this size should be limited. The length of the measured Sauger would indicate that no more than 4 to 12 meals per month should be consumed based on the Ontario guide to eating fish from Wabigoon Lake.

**Table 4.4.1.3-1A: Resident Non-Cancer Risk Characterization via Ingestion of Country Foods**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | HQ | Max HQ All Project Phases | Max HQ All Project Phases | HQ | Max HQ All Project Phases | Max HQ All Project Phases | HQ | Max HQ All Project Phases | Max HQ All Project Phases |
| **TODDLER** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | $6.4 \times 10^{-3}$ | $4.1 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $3.5 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ |
| Antimony | $5.7 \times 10^{-2}$ | $2.0 \times 10^{-3}$ | $5.9 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $7.0 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $7.0 \times 10^{-2}$ |
| Arsenic | $1.1 \times 10^{-1}$ | $3.4 \times 10^{-3}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.8 \times 10^{-2}$ | $1.4 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.8 \times 10^{-2}$ | $1.4 \times 10^{-1}$ |
| Cadmium | $5.8 \times 10^{-2}$ | $4.2 \times 10^{-4}$ | $5.8 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $6.0 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $6.0 \times 10^{-2}$ |
| Cobalt | **1.9** | $3.2 \times 10^{-3}$ | **1.7** | **1.9** | $3.6 \times 10^{-2}$ | **1.9** | **1.9** | $3.6 \times 10^{-2}$ | **1.9** |
| Copper | $3.3 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $3.4 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $3.4 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $3.4 \times 10^{-2}$ |
| Cyanide | $1.3 \times 10^{-2}$ | $6.4 \times 10^{-6}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $8.1 \times 10^{-5}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $8.1 \times 10^{-5}$ | $1.3 \times 10^{-2}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $5.3 \times 10^{-3}$ | $7.2 \times 10^{-5}$ | $5.3 \times 10^{-3}$ | $5.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $6.0 \times 10^{-3}$ | $5.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $6.0 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | $5.2 \times 10^{-9}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $5.7 \times 10^{-6}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $5.7 \times 10^{-6}$ | $2.0 \times 10^{-1}$ |
| Silver | $3.3 \times 10^{-3}$ | $7.1 \times 10^{-5}$ | $3.4 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.6 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.6 \times 10^{-3}$ |
| Thallium | **1.2** $\times 10^{1}$ | $1.3 \times 10^{-2}$ | **1.2** $\times 10^{1}$ | **1.2** $\times 10^{1}$ | $6.6 \times 10^{-2}$ | **1.3** $\times 10^{1}$ | **1.2** $\times 10^{1}$ | $6.6 \times 10^{-2}$ | **1.3** $\times 10^{1}$ |
| Uranium | $6.2 \times 10^{-2}$ | $7.4 \times 10^{-6}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $3.9 \times 10^{-5}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $3.9 \times 10^{-5}$ | $6.2 \times 10^{-2}$ |
| Zinc | **1.8** | $8.0 \times 10^{-2}$ | **1.8** | **1.8** | **5.4** $\times 10^{-1}$ | **2.2** | **1.8** | **5.4** $\times 10^{-1}$ | **2.2** |
| **ADULT*** | | | | | | | | | |
| Aluminum | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $2.2 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ |
| Antimony | $3.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $3.2 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $8.0 \times 10^{-3}$ | $3.8 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $8.0 \times 10^{-3}$ | $3.8 \times 10^{-2}$ |
| Arsenic | $6.9 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $7.1 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $8.4 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $8.4 \times 10^{-2}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $2.8 \times 10^{-4}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $3.3 \times 10^{-2}$ |
| Cobalt | **1.1** | $2.0 \times 10^{-3}$ | **1.0** | **1.1** | $2.3 \times 10^{-2}$ | **1.1** | **1.1** | $2.3 \times 10^{-2}$ | **1.1** |
| Copper | $2.1 \times 10^{-2}$ | $7.0 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $2.1 \times 10^{-2}$ |
| Cyanide | $7.4 \times 10^{-3}$ | $4.7 \times 10^{-6}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $6.0 \times 10^{-5}$ | $7.6 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $6.0 \times 10^{-5}$ | $7.6 \times 10^{-3}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $3.1 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.1 \times 10^{-3}$ | $3.1 \times 10^{-3}$ | $5.2 \times 10^{-4}$ | $3.5 \times 10^{-3}$ | $3.1 \times 10^{-3}$ | $5.2 \times 10^{-4}$ | $3.5 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | $3.8 \times 10^{-9}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $3.1 \times 10^{-6}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $3.1 \times 10^{-6}$ | $1.1 \times 10^{-1}$ |
| Silver | $1.9 \times 10^{-3}$ | $4.8 \times 10^{-5}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.1 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.1 \times 10^{-3}$ |
| Thallium | **6.9** | $9.5 \times 10^{-3}$ | **6.9** | **6.9** | $4.8 \times 10^{-2}$ | **7.8** | **6.9** | $4.8 \times 10^{-2}$ | **7.8** |
| Uranium | $3.0 \times 10^{-2}$ | $4.0 \times 10^{-6}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $3.0 \times 10^{-2}$ |
| Zinc | **1.3** | $5.7 \times 10^{-2}$ | **1.3** | **1.3** | **3.9** $\times 10^{-1}$ | **1.6** | **1.3** | **3.9** $\times 10^{-1}$ | **1.6** |

NOTES:

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| * | Hazard Quotient (HQ) serves as a conservative surrogate for potential non-cancer risks to a Project Worker who may also be a Resident |
| —[1] | Risk Characterization of lead not presented. New regulatory guidance requires that lead be assessed as a non-threshold chemical using a margin of exposure. Refer to Section 4.5 for risk characterization of lead exposure. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 for exposure to non-carcinogenic chemicals |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 but is not greater than Base Case for exposure to non-carcinogenic chemicals. |

**Table 4.4.1.3-1B: Visitor/Harvester Non-Cancer Risk Characterization via Ingestion of Country Foods**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | HQ | Max HQ All Project Phases | Max HQ All Project Phases | HQ | Max HQ All Project Phases | Max HQ All Project Phases | HQ | Max HQ All Project Phases | Max HQ All Project Phases |
| **TODDLER** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | 0.0064 | $4.1 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | 0.0763 | $1.1 \times 10^{-1}$ | $3.5 \times 10^{-2}$ | 0.0763 | $1.1 \times 10^{-1}$ |
| Antimony | $5.7 \times 10^{-2}$ | 0.0020 | $5.9 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | 0.0145 | $7.0 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | 0.0145 | $7.0 \times 10^{-2}$ |
| Arsenic | $1.1 \times 10^{-1}$ | 0.0034 | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | 0.0281 | $1.4 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | 0.0281 | $1.4 \times 10^{-1}$ |
| Cadmium | $5.8 \times 10^{-2}$ | 0.0004 | $5.8 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | 0.0029 | $6.0 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | 0.0029 | $6.0 \times 10^{-2}$ |
| Cobalt | **1.9** | 0.0032 | **1.7** | **1.9** | 0.0356 | **1.9** | **1.9** | 0.0356 | **1.9** |
| Copper | $3.3 \times 10^{-2}$ | 0.0011 | $3.4 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | 0.0021 | $3.4 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | 0.0021 | $3.4 \times 10^{-2}$ |
| Cyanide | $1.3 \times 10^{-2}$ | 0.0000 | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | 0.0001 | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | 0.0001 | $1.3 \times 10^{-2}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $5.3 \times 10^{-3}$ | 0.0001 | $5.3 \times 10^{-3}$ | $5.3 \times 10^{-3}$ | 0.0008 | $6.0 \times 10^{-3}$ | $5.3 \times 10^{-3}$ | 0.0008 | $6.0 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | 0.0000 | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | 0.0000 | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | 0.0000 | $2.0 \times 10^{-1}$ |
| Silver | $3.3 \times 10^{-3}$ | 0.0001 | $3.4 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | 0.0003 | $3.6 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | 0.0003 | $3.6 \times 10^{-3}$ |
| Thallium | **1.2** $\times 10^{1}$ | 0.0130 | **1.2** $\times 10^{1}$ | **1.2** $\times 10^{1}$ | 0.0664 | **1.3** $\times 10^{1}$ | **1.2** $\times 10^{1}$ | 0.0664 | **1.3** $\times 10^{1}$ |
| Uranium | $6.2 \times 10^{-2}$ | 0.0000 | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | 0.0000 | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | 0.0000 | $6.2 \times 10^{-2}$ |
| Zinc | **1.8** | 0.0798 | **1.8** | **1.8** | **0.5360** | **2.2** | **1.8** | **0.5360** | **2.2** |
| **ADULT** | | | | | | | | | |
| Aluminum | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $2.2 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ |
| Antimony | $3.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $3.2 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $8.0 \times 10^{-3}$ | $3.8 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $8.0 \times 10^{-3}$ | $3.8 \times 10^{-2}$ |
| Arsenic | $6.9 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $7.1 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $8.4 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $8.4 \times 10^{-2}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $2.8 \times 10^{-4}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $3.3 \times 10^{-2}$ |
| Cobalt | **1.1** | $2.0 \times 10^{-3}$ | **1.0** | **1.1** | $2.3 \times 10^{-2}$ | **1.1** | **1.1** | $2.3 \times 10^{-2}$ | **1.1** |
| Copper | $2.1 \times 10^{-2}$ | $7.0 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $2.1 \times 10^{-2}$ |
| Cyanide | $7.4 \times 10^{-3}$ | $4.7 \times 10^{-6}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $6.0 \times 10^{-5}$ | $7.6 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $6.0 \times 10^{-5}$ | $7.6 \times 10^{-3}$ |
| Lead | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] | —[1] |
| Mercury | $3.1 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.1 \times 10^{-3}$ | $3.1 \times 10^{-3}$ | $5.2 \times 10^{-4}$ | $3.5 \times 10^{-3}$ | $3.1 \times 10^{-3}$ | $5.2 \times 10^{-4}$ | $3.5 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | $3.8 \times 10^{-9}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $3.1 \times 10^{-6}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $3.1 \times 10^{-6}$ | $1.1 \times 10^{-1}$ |
| Silver | $1.9 \times 10^{-3}$ | $4.8 \times 10^{-5}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.1 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.1 \times 10^{-3}$ |
| Thallium | **6.9** | $9.5 \times 10^{-3}$ | **6.9** | **6.9** | $4.8 \times 10^{-2}$ | **7.8** | **6.9** | $4.8 \times 10^{-2}$ | **7.8** |
| Uranium | $3.0 \times 10^{-2}$ | $4.0 \times 10^{-6}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $3.0 \times 10^{-2}$ |
| Zinc | **1.3** | $5.7 \times 10^{-2}$ | **1.3** | **1.3** | **3.9** $\times 10^{-1}$ | **1.6** | **1.3** | **3.9** $\times 10^{-1}$ | **1.6** |

NOTES:

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| —[1] | Risk Characterization of lead not presented. New regulatory guidance requires that lead be assessed as a non-threshold chemical using a margin of exposure. Refer to Section 4.5 for risk characterization of lead exposure. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 for exposure to non-carcinogenic chemicals |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 0.2 but is not greater than Base Case for exposure to non-carcinogenic chemicals. |

### 4.4.2 Results of Risk Characterization- Carcinogens

Arsenic was identified as carcinogenic COC in environmental and/or Project-specific media and therefore required quantitative assessment of carcinogenic risks in addition to its respective non-cancer risks described in Section 4.4.1 above.

As stated in the exposure assessment (Section 4.3.5), three exposure Offset Scenarios were selected to calculate the lifetime average daily dose in an effort to ensure that all life stages were conservatively assessed for their exposure to existing conditions as well as the various phase of the Project and following Closure of the Project. Details of each exposure Offset Scenario are described in Section 4.3.5. The following subsections provide a summary of the results of the quantitative characterization of the potential cancer risk for arsenic associated with each exposure scenario, and offset exposure scenario for cancer exposure for the Base Case, Project Alone, and Project Assessment Scenarios.

### 4.4.2.1 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

Arsenic is the only carcinogenic COC in TSF supernatant water. A Project Worker is the only receptor that is exposed to waste rock and only during the active phases of the Project, i.e., Site Preparation and Construction, Operations, and Closure. There is no Base Case Assessment Scenario for comparison with respect to Project Worker exposure to the waste rock.

The predicted ILCR for a Composite Cancer Receptor protective of a Project Worker exposed to TSF supernatant water exceeds the Health Canada ILCR targets as a result of the Project (Table 4.4.2.1-1). As such, a Health and Safety Plan including additional personal protective equipment such as gloves, and protective clothing is recommended for Project Workers who may come into direct contact with TSF supernatant water.

**Table 4.4.2.1-1: Worker Cancer Risk Characterization via Dermal Contact and Ingestion of TSF Supernatant Water (Study Area No. 1)**

| Exposure Scenario | Contaminant of Concern | Incremental Lifetime Cancer Risk | | |
|---|---|---|---|---|
| | | Base Case | Project Alone Case | Project Case |
| **Offset Scenario 1** | | | | |
| Project Worker | **Arsenic** | — | **$1.6 \times 10^{-4}$** | **$1.6 \times 10^{-4}$** |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated Incremental Lifetime Cancer Risk exceeds the Health Canada Target of 1 in 1 million ($1 \times 10^{-6}$) |

### 4.4.2.2 Dermal Contact and Incidental Ingestion of Waste Rock

Arsenic is the only carcinogenic COC in waste rock. A Project Worker is the only receptor that is exposed to waste rock and only during the active phases of the Project, i.e., Site Preparation and Construction, Operations, and Closure. There is no Base Case Assessment Scenario for comparison with respect to Project Worker exposure to the waste rock.

The predicted ILCR for a Composite Cancer Receptor protective of a Project Worker exposed to waste rock exceeded the Health Canada ILCR targets as a result of the Project (Table 4.4.2.2-1). As such a health and safety plan including gloves, and protective clothing is recommended for a Project Worker when exposed to waste rock. With the implementation of these risk management measures, no potential risk to a Project Worker via exposure to arsenic in waste rock are anticipated.

**Table 4.4.2.2-1: Worker Cancer Risk Characterization via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1)**

| Exposure Scenario | Contaminant of Concern | Incremental Lifetime Cancer Risk | | |
|---|---|---|---|---|
| | | Base Case | Project Alone Case | Project Case |
| **Offset Scenario 1** | | | | |
| Project Worker | **Arsenic** | — | **$5.1\times10^{-6}$** | **$6.2\times10^{-6}$** |

**NOTES:**

Units — Unitless fraction

**BOLD AND SHADED** — Calculated Incremental Lifetime Cancer Risk exceeds the Health Canada Target of 1 in 1 million ($1 \times 10^{-6}$)

### 4.4.2.3 Ingestion of Country Foods

The results of the assessment of potential risk via the ingestion of country foods pathway indicated that potential risks via the ingestion of country foods may not be ruled out. The results also indicated however, that the Project Assessment Scenario risk estimates only exceeded the ILCR target, when they also exceed the ILCR target in the Base Case Assessment Scenario. The ILCR target of $1 \times 10^{-6}$ was exceeded in the Base Case Assessment Scenario for all country food items with the exception of root vegetables and the snowshoe hare. The estimated ILCRs for each of these country foods items were in the $1 \times 10^{-6}$ range and therefore only marginally exceed the Health Canada benchmark (Cancer Model pages, Appendix V- Model Outputs).

Potential risk via exposure to arsenic in country foods was largely due to the modelled concentrations of arsenic in Labrador tea, mallard duck, and ruffed grouse (Figure 4.4.2.3-1). The follow up program described in the Final Goliath Gold Project Follow Up Addendum will be used to verify arsenic concentrations in country food items.

The carcinogenic risk characterization results via ingestion of country foods pathway for all Study Areas and relevant exposure scenarios are presented in Table 4.4.2.3-4.

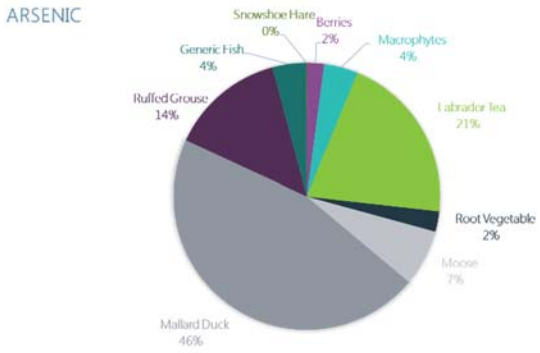



**Figure 4.4.2.3-1 Relative Contributions to Incremental Lifetime Cancer Risk via Ingestion of Country Foods**

**Table 4.4.2.3-4: Resident & Visitor/Harvester Cancer Risk Characterization via Ingestion of Country Foods**

| Exposure Scenario | Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Incremental Lifetime Cancer Risk | | | Incremental Lifetime Cancer Risk | | | Incremental Lifetime Cancer Risk | | |
| | | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| **Resident & Visitor/ Harvester** | **Off Set Scenario 1** | | | | | | | | | |
| | **Arsenic** | **$3.9\times 10^{-5}$** | — | — | **$3.9\times 10^{-5}$** | **$1.3\times 10^{-5}$** | **$4.1\times 10^{-5}$** | **$3.9\times 10^{-5}$** | **$1.3\times 10^{-5}$** | **$4.1\times 10^{-5}$** |
| **Resident & Visitor/ Harvester** | **Off Set Scenario 2** | | | | | | | | | |
| | Arsenic | **$3.9\times 10^{-5}$** | — | — | **$3.9\times 10^{-5}$** | **$2.4\times 10^{-6}$** | **$4.1\times 10^{-5}$** | **$3.9\times 10^{-5}$** | **$2.4\times 10^{-6}$** | **$4.1\times 10^{-5}$** |
| **Resident & Visitor/ Harvester** | **Off Set Scenario 3** | | | | | | | | | |
| | Arsenic | **$3.9\times 10^{-5}$** | **$1.2\times 10^{-6}$** | **$4.0\times 10^{-5}$** | **$3.9\times 10^{-5}$** | $2.2\times 10^{-7}$ | **$3.9\times 10^{-5}$** | **$3.9\times 10^{-5}$** | $2.2\times 10^{-7}$ | **$3.9\times 10^{-5}$** |

NOTES:

| | |
|---|---|
| Units | Unitless fraction |
| — | Inoperable exposure pathway/receptor scenario |
| **BOLD AND SHADED** | Calculated Incremental Lifetime Cancer Risk exceeds the Health Canada Target of 1 in 1 million ($1\times 10^{-6}$) |

## 4.5 Special Considerations Lead

For a Project Worker (assumed to be an adult), the potential risk via lead exposure is characterized using the benchmark dose limit for the cardiovascular and nephrotoxicity endpoints of 0.0015 mg/kg/day and 0.00063 mg/kg/day, respectively. For Residents and Visitors/Harvesters who may be adults and children, exposure to lead via ingestion of country foods is characterized using the cardiovascular and nephrotoxicity endpoints for adults, and the developmental endpoint of 0.00050 mg/kg/day for children.

Note that the risk characterization data set provided as Model Outputs in Appendix V, present risk characterization of lead for infants, toddlers, and children using the developmental benchmark dose limit, and for output simplicity, teens, adults and project workers are reported using only the benchmark dose limit for cardiovascular effects. Nephrotoxicity for adults and workers has been included within the body of the report only.

As per the EFSA guidance document, the risk characterization is described using a "margin of exposure (MOE)" is supported for the characterization of lead. MOEs are calculated by dividing the BMDL values derived from human data for the different endpoints by the estimates of dietary exposure. The EFSA guidance states that an MOE of 10 or greater should be sufficient to ensure that there was no appreciable risk of a clinically significant effect. At lower MOEs, but greater than 1.0, the risk is likely to be low, but not such that it could be dismissed as of no potential concern. The calculated MOEs of lead via exposure to TSF supernatant water, waste rock, and country foods are provided in Tables 4.5-1. 4.5-2, and 4.5-3, respectively.

For a Project Worker exposure to lead via direct contact with waste rock and TSF supernatant water did not exceed the risk specific dose/BMDL of 0.00063 mg/kg b.w. per day for the nephrotoxicity endpoint or 0.0015 mg/kg b.w. per day protective of cardiovascular effects in adults and in all cases the MOE was greater than 1 indicating that the risk is likely to be low, but not such that it could be dismissed as of no potential concern. A Health and Safety Plan is good practice for Project Workers. At a minimum the Health and Safety Plan would require additional PPE such as long sleeves and pants, gloves, and a face shield for those Project Workers.

For Residents and Visitors/Harvesters exposure to lead via ingestion of country foods did not exceed the risk specific dose/BMDL of 0.0005 mg/kg b.w. per day for the developmental endpoint, 0.0015 mg/kg b.w. per day protective of cardiovascular effects in adults and in all cases the MOE was greater than 1 indicating that the risk is likely to be low. No risk management measures are required.

Risk via exposure to lead for the Base Case, Project Alone and Project Assessment Scenarios is predicted to be low. A Follow-Up Program is proposed that developed includes country foods analysis of lead and determination of site-specific uptake factors to confirm these results.

**Table 4.5-1: Worker Lead Risk Characterization via Dermal Contact and Ingestion of Waste Rock (Study Area No. 1)**

| Contaminant of Concern | Benchmark Dose Limit/ Risk Specific Dose (mg/kg/day) | Margin of Exposure (MOE) for Lead Exposure via Direct Dermal Contact and Incidental Ingestion | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
| | | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | | |
| Nephrotoxicity Endpoint | | | | | | | | | | |
| Lead | 0.00063 | 43.3 | 2.8 | 2.8 | 2.8 | 194.5 | 2.8 | 2.8 | 2.8 | 35.4 |
| Cardiovascular Endpoint | | | | | | | | | | |
| Lead | 0.0015 | 103.1 | 103.1 | 6.6 | 6.6 | 6.6 | 463.2 | 6.6 | 6.6 | 6.6 |

**NOTES:**

| | |
|---|---|
| Units | MOEs are reported as a unitless fraction |
| **BOLD AND SHADED** | Calculated MOE is less than lead risk threshold of 1. Risk is less likely to be low (JFSA, 2013). |

**Table 4.5-2: Worker Lead Risk Characterization via Dermal Contact and Ingestion of TSF Supernatant Water (Study Area No. 1)**

| Contaminant of Concern | Benchmark Dose Limit/ Risk Specific Dose (mg/kg/day) | Margin of Exposure (MOE) for Lead Exposure via Direct Dermal Contact and Incidental Ingestion | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Base Case Assessment Scenario | Project Alone Assessment Scenario | | | | Project Assessment Scenario | | | |
| | | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | | |
| Nephrotoxicity Endpoint | | | | | | | | | | |
| Lead | 0.00063 | — | — | 2.3 | — | — | — | 2.3 | — | — |
| Cardiovascular Endpoint | | | | | | | | | | |
| Lead | 0.0015 | — | — | 5.4 | — | — | — | 5.4 | — | — |

**NOTES:**

Units — MOEs are reported as a unitless fraction

**BOLD AND SHADED** — Calculated MOE is less than lead risk threshold of 1. Risk is less likely to be low (JFSA, 2013).

**Table 4.5-3: Residents & Visitor/ Harvester Worker Lead Risk Characterization via Country Foods**

| Contaminant of Concern | Benchmark Dose Limit/ Risk Specific Dose (mg/kg/day) | MARGIN OF EXPOSURE (MOE) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
| | | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases | Base Case | Project Alone Case Max of Exposure- All Project Phases | Project Case Max of Exposure- All Project Phases |
| **TODDLER** | | | | | | | | | | |
| Developmental Endpoint | | | | | | | | | | |
| Lead | 0.0005 | 2.0 | 25.7 | 1.8 | 2.0 | 7.7 | 1.6 | 2.0 | 7.7 | 1.6 |
| **ADULT** | | | | | | | | | | |
| Nephrotoxicity Endpoint | | | | | | | | | | |
| Lead | 0.00063 | 4.7 | 58.6 | 4.4 | 4.7 | 15.6 | 3.7 | 4.7 | 15.6 | 3.7 |
| Cardiovascular Endpoint | | | | | | | | | | |
| Lead | 0.015 | 11.2 | 139.5 | 10.4 | 11.2 | 37.2 | 8.8 | 11.2 | 37.2 | 8.8 |

**NOTES:**

Units — MOEs are reported as a unitless fraction

**BOLD AND SHADED** — Calculated MOE is less than lead risk threshold of 1. Risk is less likely to be low (JFSA, 2013).

## 4.6 Residual Adverse Effects

Residual adverse effects for human health are identified based on the estimated potential risk value via the sum of all operable exposure pathways. As part of the Round 2 information request process, the Agency and Health Canada requested that residual adverse effects not be identified on the grounds of incremental changes in potential health risks as a result of the Project. Instead, the Agency and Health Canada asked that residual effects be identified using the total risk from all operable exposure pathways, routes, and environmental and Project-specific media with consideration provided to the sum of exposure risks across all exposure routes (i.e. inhalation, ingestion, and dermal contact) with consideration provided to the effects on the same target organ (refer to TMI_956-HHRA(2)-03).

For human health a residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than base, then the residual effect would not be adverse. The evaluation of residual adverse effects has focused on the Project Assessment Scenario recognizing that individuals cannot be exposed to the Project Alone Assessment Scenario under real world conditions. In keeping with the EIS Guidelines for the Goliath Gold Project, the estimated potential risk via the sum of all operable exposure pathways is based upon the predictions that incorporate the mitigation measures described in the revised EIS (April 2018). In keeping with risk assessment methodology, the residual adverse effects for have been identified in the absence of risk management measures, however the implementation of a Health and Safety Plan at the Goliath Gold Project will be a mandatory requirement.

Where residual effects are identified, as per the EIS guidelines for the Goliath Gold Project, they have been carried forward to for an assessment of cumulative effects (section 4.7) and determination of significance (section 4.8).

### 4.6.1 Exposure Estimates: Sum of all Pathways

The following pathways were considered in the calculation of total exposure from all exposure pathways for determination of residual adverse effects:

1. **Inhalation of Fugitive Dust -** exposures are estimated for all receptors/ exposure scenarios (i.e., Project Worker, Resident and Visitor/ Harvester).

2. **Ingestion and Dermal Contact with Surface Water-** exposures are estimated for all receptors/ exposure scenarios (i.e., Project Worker, Resident and Visitor/ Harvester).

3. **Ingestion and Dermal Contact with TSF Supernatant Water-** exposures are estimated for a Project Worker on Study Area No. 1 exposed during the Operations phase of the Project.

4. **Ingestion and Dermal Contact with Waste Rock -** exposures are estimated for a Project Worker on Study Area No. 1 exposed during all phases of the Project.

5. **Ingestion of Country Foods**- exposures are estimated for a Resident residing within Study Area No. 2 and 3, and for a Visitor/ Harvester of Study Area No. 2 and 3, for all phases of the Project.

Country foods are also assessed for a Resident of Study Area No. 1 during the Post-Closure phase of the Project (there is no access to Study Area No. 1 until Post-Closure). The country foods pathway is not assessed for a Project Worker.

The Goliath Gold Project HHERA model was employed to calculate the non-cancer average daily exposure dose for each COC and associated pathway requiring quantitative assessment. In total, 81 non-cancer and 51 cancer permutations of the model simulations were required to capture all Study Areas, Assessment Scenarios, Project Phases, and Receptor Exposure Scenarios. A summary of average daily doses for the toddler, adult, and worker receptors for the various exposure scenarios requiring quantitative assessment has been provided herein, and the full model outputs of calculated exposure are provided in Appendix V "Model Outputs".

### 4.6.2 Additive Chemical Interactions

Chemical exposures do not usually occur independently, but in combination with other chemicals. Therefore, the potential health effects associated with mixtures of COCs were assessed according to guidance from Health Canada (2010a). Additive interactions may apply to chemicals that behave toxicologically through similar mechanisms or that affect the same target endpoint in biological systems (i.e., common effect) (Health Canada 2010a).

The critical endpoints of the exposure limits used in the assessment provide the basis for an individual chemical's inclusion in a chemical mixture. For example, the TRVs for aluminum, methylmercury, and uranium exposure are all based on neurological effects; therefore, all three chemicals were included as a group for the assessment of neurological effects. Table 4.5-1 presents the Hazard Index which is the total of HQ values for the potential interaction between the COCs emitted by the Goliath Gold Project, sharing a common toxicological endpoint following exposure.

The nature of toxicity for each of the 14 contaminants of concern was provided in Section 4.2- toxicity Assessment. A summary of the toxicity endpoints (i.e. effects on the target organ) relied upon for the determination of residual adverse effects is provided in Table 4.6.2-1. Lead has been excluded from the additive chemical interactions assessment as it differs from all other COCs in that the risk characterization involves the use of margin of exposures instead of hazard quotient and therefore the arithmetic used for the risk characterization step does not allow for simple addition in additive chemical interactions. Lead is known to cause developmental effects in children and cardiovascular effects and nephrotoxicity in adults. Although risk to lead was determined to be unlikely via all operable exposure pathways (section 4.5) the values presented in the following series of tables may represent under estimates of the developmental, cardiovascular and nephrotoxicity endpoints as they do not consider the effects of lead.

**Table 4.6.2-1.: Nature of Chemical Toxicity for Determination of Additive Chemical Interactions**

| Toxicity Endpoint | Chemical of Concern |
|---|---|
| Neurological | Aluminum<br>Methylmercury<br>Uranium |
| Respiratory | Cobalt |
| Developmental | Zinc |
| Digestive Track | Copper |
| Renal | Cadmium |
| Vascular | Antimony<br>Arsenic<br>Cyanide |
| Integumentary | Silver<br>Thallium |
| Nephrotoxicity | Mercury |

### 4.6.3 Risk Characterization: Sum of all Pathways

Residual adverse effects for human health are identified based on the estimated potential risk values via the sum of all operable exposure pathways. The following subsections present the risk estimates via the sum of all exposure pathways for each receptor group (i.e. Project Worker, Resident, and Visitor/Harvester). Numeric risk estimates are presented by chemical of concern for non-carcinogens and carcinogens, as well as by toxic effect to account for additive chemical interactions. Where a residual adverse effect exists, it is clearly indicated within the table ad associated text. Options for risk management to reduce the residual adverse effect are also discussed where suitable.

The characterization of potential risk for determination of residual adverse effects follows Health Canada Detailed Qualitative Risk Assessment Guidance and recent guidance by JFSA for lead. For non-carcinogens a target hazard quotient of 1 is considered acceptable given that all contaminated media, background exposure, and potential chemical interactions are considered. For carcinogens, although Health Canada accepts 1 in 100,000 (i.e. $10^{-5}$), the more conservative target set by the province of Ontario has been adopted of 1 in 1,000,000 ($10^{-6}$). Thus, a residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 for non-carcinogens and $1 \times 10^{-6}$ for carcinogens, and is larger than the risk estimate for the Base Case Assessment Scenario. For lead a target margin of exposure (MOE) of 1 is considered the lowest "acceptable" level as per language in the JFSA guidance (JFSA 2013). Thus, a residual adverse effect for lead is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, is below the MOE benchmark of 1 and is smaller than the MOE for the Base Case Assessment Scenario.

#### 4.6.3.1 Project Worker

A residual adverse effect for the non-cancer endpoint was identified via thallium exposure to a Project Worker working within the Operations Area (Study Area No. 1) during the Operations phase of the Project only (Table 4.6.3.1-1). A residual adverse effect was also identified for the carcinogenic endpoint via arsenic exposure to a Project Worker as identified by Offset Scenario 1 (Study Area 1), residential exposure (Table 4.6.3.1-2). A residual effect is identified for the additive chemical interaction endpoint for integumentary toxic effects is identified due to the thallium (Table 4.6.3.1-3). Under good health and safety practices, an occupational Health and Safety Plan would be in place for Project Workers and serve as an appropriate risk management/ mitigation measure. A Health and Safety plan including the prescribed use of additional personal protective equipment, is a suitable risk management measure to mitigate any adverse residual effect. With a Health and Safety Plan implemented as a risk management measures, the predicted residual adverse effects are eliminated, and no residual adverse effects are identified to Project Workers.

**Table 4.6.3.1-1 Project Worker Risk Characterization via Sum of All Exposure Pathways (Study Area No 1. Only)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **WORKER** | | | | | | | | | |
| Aluminum | $1.4 \times 10^{-3}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.9 \times 10^{-3}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.9 \times 10^{-3}$ |
| Antimony | $1.5 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $4.1 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $6.8 \times 10^{-3}$ | $3.0 \times 10^{-2}$ | $4.1 \times 10^{-2}$ | $4.1 \times 10^{-2}$ | $9.9 \times 10^{-3}$ |
| Arsenic | $3.3 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $2.3 \times 10^{-1}$ | $9.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $2.3 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.8 \times 10^{-2}$ |
| Cadmium | $5.9 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $6.4 \times 10^{-4}$ |
| Cobalt | $1.6 \times 10^{-2}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $3.1 \times 10^{-3}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.6 \times 10^{-2}$ |
| Copper | $5.8 \times 10^{-4}$ | $8.2 \times 10^{-4}$ | $1.3 \times 10^{-3}$ | $8.2 \times 10^{-4}$ | $1.1 \times 10^{-4}$ | $8.2 \times 10^{-4}$ | $1.3 \times 10^{-3}$ | $8.8 \times 10^{-4}$ | $6.2 \times 10^{-4}$ |
| Cyanide | $4.1 \times 10^{-4}$ | 0.0 | $1.1 \times 10^{-1}$ | 0.0 | $2.3 \times 10^{-4}$ | 0.0 | $1.1 \times 10^{-1}$ | $4.1 \times 10^{-4}$ | $2.3 \times 10^{-4}$ |
| Lead[1] | 44.3 | 4.2 | 1.9 | 4.2 | 72.5 | 4.2 | 1.9 | 4.1 | 34.5 |
| Mercury | $8.9 \times 10^{-5}$ | $2.3 \times 10^{-4}$ | $1.6 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $1.5 \times 10^{-5}$ | $2.3 \times 10^{-4}$ | $1.6 \times 10^{-3}$ | $2.9 \times 10^{-4}$ | $4.8 \times 10^{-5}$ |
| Methylmercury | $8.4 \times 10^{-6}$ | 0.0 | $1.8 \times 10^{-3}$ | 0.0 | $2.0 \times 10^{-6}$ | 0.0 | $1.8 \times 10^{-3}$ | $8.4 \times 10^{-6}$ | $2.0 \times 10^{-6}$ |
| Silver | $4.9 \times 10^{-4}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $1.3 \times 10^{-4}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $5.3 \times 10^{-4}$ |
| Thallium | $4.0 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $1.0 \times 10^{2}$ | $3.6 \times 10^{-1}$ | $6.1 \times 10^{-2}$ | $3.6 \times 10^{-1}$ | **$1.0 \times 10^{2}$** | $4.6 \times 10^{-1}$ | $3.6 \times 10^{-1}$ |
| Uranium | $5.1 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $4.5 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $4.5 \times 10^{-3}$ | $6.4 \times 10^{-3}$ | $3.3 \times 10^{-3}$ |
| Zinc | $2.4 \times 10^{-2}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $3.3 \times 10^{-3}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $2.7 \times 10^{-2}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using most conservative endpoint for an adult for nephrotoxicity $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | **Residual adverse effect identified.** Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.1-2 Incremental Lifetime Cancer Risk Dose via Dermal Contact and Ingestion of Sum of All Pathways (Study Area No. 1)**

| Contaminant of Concern | Incremental Lifetime Cancer Risk | | |
|---|---|---|---|
| | Base Case | Project Alone Case | Project Case |
| Off-Set Scenario 1 | | | |
| **Arsenic** | **$1.3 \times 10^{-4}$** | **$2.0 \times 10^{-4}$** | **$2.2 \times 10^{-4}$** |

**NOTES:**

Units: Unitless fraction

**BOLD AND SHADED**: Calculated hazard quotient exceeds Health Canada risk benchmark of $1\times 10^{-6}$ for total exposure to carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, dermal contact, and ingestion of country foods)

**BOLD AND SHADED**: **Residual adverse effect identified.** A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of $1 \times 10^{-6}$ and is larger than the risk estimate for the Base Case Assessment Scenario.

**Table 4.6.3.1-3: Additive Chemical Interactions for a Project Worker via Sum of All Exposure Pathways (Study Area No 1. Only)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **PROJECT WORKER** | | | | | | | | | |
| Neurological | $6.6 \times 10^{-3}$ | 1.0 | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $4.8 \times 10^{-3}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.9 \times 10^{-1}$ | $6.2 \times 10^{-3}$ |
| Respiratory | $1.6 \times 10^{-2}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $3.1 \times 10^{-3}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.6 \times 10^{-2}$ |
| Developmental | $2.4 \times 10^{-2}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $3.3 \times 10^{-3}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $2.7 \times 10^{-2}$ |
| Digestive Track | $5.8 \times 10^{-4}$ | $8.2 \times 10^{-4}$ | $1.3 \times 10^{-3}$ | $8.2 \times 10^{-4}$ | $1.1 \times 10^{-4}$ | $8.2 \times 10^{-4}$ | $1.3 \times 10^{-3}$ | $8.8 \times 10^{-4}$ | $6.2 \times 10^{-4}$ |
| Renal | $5.9 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $6.4 \times 10^{-4}$ |
| Vascular | $4.8 \times 10^{-2}$ | $1.2 \times 10^{-1}$ | $3.8 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.9 \times 10^{-2}$ | $1.2 \times 10^{-1}$ | $3.8 \times 10^{-1}$ | $1.5 \times 10^{-1}$ | $3.8 \times 10^{-2}$ |
| Integumentary | $4.0 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $1.0 \times 10^{2}$ | $3.6 \times 10^{-1}$ | $6.2 \times 10^{-2}$ | $3.6 \times 10^{-1}$ | **$1.0 \times 10^{2}$** | $4.7 \times 10^{-1}$ | $3.6 \times 10^{-1}$ |
| Nephrotoxicity | $8.9 \times 10^{-5}$ | $2.3 \times 10^{-4}$ | $1.6 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $1.5 \times 10^{-5}$ | $2.3 \times 10^{-4}$ | $1.6 \times 10^{-3}$ | $2.9 \times 10^{-4}$ | $4.8 \times 10^{-5}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | **Residual adverse effect identified**. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

### 4.6.3.2 Resident

For Study Area No 1., a residual adverse effect was identified via zinc exposure to a resident (toddler, child and teen only) who may reside in the former Operations Area during the Post-Closure phase of the Project (Table 4.6.3.2-1). For Study Area No. 1, residual adverse effects are identified for the additive chemical interaction endpoint for developmental effects (Table 4.6.3.2-3). It should be noted that the residual adverse effects identified via the sum of all pathways for both the non-cancer and additive chemical interactions endpoints also exceeded for in the Base Case Assessment Scenario.

For both Study Area No 2., the LSA and Study Area No. 3, the Village of Wabigoon residual adverse effects were identified via thallium exposure to a resident (all ages except infant) who may reside in these Study Areas during the Operations phase of the Project. A residual adverse effect was identified via zinc exposure to a resident (all ages except infant) for the active phases (i.e. Site Preparation and Construction, Operations and Closure) of the Project, however it does not extend into Post-Closure for either Study Area. Residual adverse effects are identified for the additive chemical interaction endpoints for integumentary effects and developmental effects, given the toxicity of thallium and zinc respectively. It should be noted that the predicted residual adverse effects via the sum of all pathways for the non-cancer endpoint and additive chemical interaction endpoint also exceeded for thallium and zinc in the Base Case Assessment Scenario.

For all study areas, a residual adverse effect was identified for arsenic via the carcinogenic endpoint (Table 4.6.3.2-2). Offset Scenarios 1 and 2 are not applicable to Study Area 1 because the Operations Area will only be accessible to Project Workers for the time frame captured by these two offsets (i.e., -19 year to + 2 years from today). Therefore, Offset Scenario 3 may be used to define the residual adverse effects to a Resident using the Operations Area following closure of the Project (i.e. during the post-closure phase). There are no residual adverse effects identified in Offset Scenario 3 at Study Area No. 1 (the Operations Area).

For Study Area No 2 and Study Area No. 3., residual adverse effects via exposure to arsenic from all exposure pathways were identified. It should be noted that adverse effects identified in both Study Areas were less 1.6% relative to the Base Case. For a Resident, potential non-cancer residual effects for thallium and zinc and cancer risk via exposure to arsenic are largely being driven by the ingestion of country foods.

In all cases where a residual effect was identified in the Project Assessment Scenario, potential risk exceedances were observed in the Base Case Assessment Scenario. The results of the residual adverse effects assessment although presented as the sum of all operable exposure pathways, were largely driven by the country foods pathway of exposure which contribute the highest proportion to the overall calculation of effect. Although the results indicate that potential risk in the existing environment via thallium, zinc and arsenic in country foods is present, this is unlikely to be a valid representation of potential risk in the existing environment but rather an artifact of the conservative assumptions relied upon in the risk assessment and the use of literature derived uptake factors for modelling chemical concentration into country food tissue. Given that the predictions for potential human health effects in the Project Assessment Scenario are modelled in part from the chemical concentrations in the Base Case Assessment Scenario, any artifact or uncertainty in the Base Case is compounded in the Project Assessment Scenario. The Follow-Up Program should be used to verify the assumptions relied upon with respect to baseline concentrations of thallium, zinc and arsenic in country foods, as well as for the determination of site-specific uptake factors. At this time, it is unlikely that the predicted potential risk in

the existing environment or the identified residual adverse effects as a result of the Project, will remain following the implementation of the Follow-Up Program. At this time, predicted risk to human receptors including for those that practice traditional land and resource and consume country foods is considered to be essentially negligible as a result of the Goliath Gold Project. Additional risk management or mitigation measures are not required at this time.

**Table 4.6.3.2-1A: Resident Risk Characterization via Sum of All Pathways (Study Area 1)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $2.6 \times 10^{-2}$ | — | — | — | $1.2 \times 10^{-2}$ | — | — | — | $1.2 \times 10^{-2}$ |
| Antimony | $2.1 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{-1}$ |
| Arsenic | $3.4 \times 10^{-1}$ | — | — | — | $2.0 \times 10^{-1}$ | — | — | — | $2.3 \times 10^{-1}$ |
| Cadmium | $4.3 \times 10^{-3}$ | — | — | — | $3.9 \times 10^{-3}$ | — | — | — | $4.8 \times 10^{-3}$ |
| Cobalt | $9.9 \times 10^{-2}$ | — | — | — | $3.9 \times 10^{-2}$ | — | — | — | $6.8 \times 10^{-2}$ |
| Copper | $1.9 \times 10^{-3}$ | — | — | — | $1.8 \times 10^{-3}$ | — | — | — | $2.5 \times 10^{-3}$ |
| Cyanide | $7.4 \times 10^{-3}$ | — | — | — | $4.2 \times 10^{-3}$ | — | — | — | $4.2 \times 10^{-3}$ |
| Lead[1] | 4.6 | — | — | — | 4.0 | — | — | — | 3.4 |
| Mercury | $1.1 \times 10^{-3}$ | — | — | — | $2.5 \times 10^{-4}$ | — | — | — | $2.9 \times 10^{-4}$ |
| Methylmercury | $1.6 \times 10^{-4}$ | — | — | — | $3.8 \times 10^{-5}$ | — | — | — | $3.8 \times 10^{-5}$ |
| Silver | $1.9 \times 10^{-3}$ | — | — | — | $8.6 \times 10^{-4}$ | — | — | — | $1.0 \times 10^{-3}$ |
| Thallium | **2.0** | — | — | — | $8.8 \times 10^{-1}$ | — | — | — | 1.0 |
| Uranium | $6.9 \times 10^{-2}$ | — | — | — | $3.4 \times 10^{-2}$ | — | — | — | $3.5 \times 10^{-2}$ |
| Zinc | $2.4 \times 10^{-2}$ | — | — | — | $2.7 \times 10^{-2}$ | — | — | — | $3.8 \times 10^{-2}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-2}$ | — | — | — | $1.9 \times 10^{-2}$ | — | — | — | $5.3 \times 10^{-2}$ |
| Antimony | $2.7 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{-1}$ | — | — | — | $1.8 \times 10^{-1}$ |
| Arsenic | $4.8 \times 10^{-1}$ | — | — | — | $2.0 \times 10^{-1}$ | — | — | — | $3.6 \times 10^{-1}$ |
| Cadmium | $6.3 \times 10^{-2}$ | — | — | — | $4.3 \times 10^{-3}$ | — | — | — | $6.4 \times 10^{-2}$ |
| Cobalt | **2.0** | — | — | — | $4.4 \times 10^{-2}$ | — | — | — | 1.8 |
| Copper | $3.6 \times 10^{-2}$ | — | — | — | $2.8 \times 10^{-3}$ | — | — | — | $3.8 \times 10^{-2}$ |
| Cyanide | $2.0 \times 10^{-2}$ | — | — | — | $4.2 \times 10^{-3}$ | — | — | — | $1.7 \times 10^{-2}$ |
| Lead[1] | 1.3 | — | — | — | 3.4 | — | — | — | 1.1 |
| Mercury | $6.3 \times 10^{-3}$ | — | — | — | $3.2 \times 10^{-4}$ | — | — | — | $5.6 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | — | — | — | $3.7 \times 10^{-5}$ | — | — | — | $2.0 \times 10^{-1}$ |
| Silver | $5.2 \times 10^{-3}$ | — | — | — | $9.2 \times 10^{-4}$ | — | — | — | $4.4 \times 10^{-3}$ |
| Thallium | **1.4** $\times 10^{1}$ | — | — | — | $8.8 \times 10^{-1}$ | — | — | — | $1.3 \times 10^{1}$ |
| Uranium | $1.3 \times 10^{-1}$ | — | — | — | $3.3 \times 10^{-2}$ | — | — | — | $9.7 \times 10^{-2}$ |
| Zinc | **1.8** | — | — | — | $1.1 \times 10^{-1}$ | — | — | — | **1.9** |

**Table 4.6.3.2-1A: Resident Hazard Quotient via Sum of All Pathways (Study Area 1) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $4.8 \times 10^{-2}$ | — | — | — | $1.3 \times 10^{-2}$ | — | — | — | $4.4 \times 10^{-2}$ |
| Antimony | $1.9 \times 10^{-1}$ | — | — | — | $7.9 \times 10^{-2}$ | — | — | — | $1.3 \times 10^{-1}$ |
| Arsenic | $3.1 \times 10^{-1}$ | — | — | — | $1.3 \times 10^{-1}$ | — | — | — | $2.4 \times 10^{-1}$ |
| Cadmium | $4.7 \times 10^{-2}$ | — | — | — | $2.9 \times 10^{-3}$ | — | — | — | $4.8 \times 10^{-2}$ |
| Cobalt | **1.5** | — | — | — | $2.8 \times 10^{-2}$ | — | — | — | 1.3 |
| Copper | $2.6 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-3}$ | — | — | — | $2.7 \times 10^{-2}$ |
| Cyanide | $1.9 \times 10^{-2}$ | — | — | — | $2.8 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-2}$ |
| Lead[1] | 2.0 | — | — | — | 5.2 | — | — | — | 1.7 |
| Mercury | $7.7 \times 10^{-3}$ | — | — | — | $2.2 \times 10^{-4}$ | — | — | — | $7.2 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{-5}$ | — | — | — | $6.6 \times 10^{-1}$ |
| Silver | $4.6 \times 10^{-3}$ | — | — | — | $6.2 \times 10^{-4}$ | — | — | — | $4.1 \times 10^{-3}$ |
| Thallium | **$2.6 \times 10^{1}$** | — | — | — | $6.0 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{1}$ |
| Uranium | $9.7 \times 10^{-2}$ | — | — | — | $2.3 \times 10^{-2}$ | — | — | — | $7.5 \times 10^{-2}$ |
| Zinc | **1.3** | — | — | — | $7.7 \times 10^{-2}$ | — | — | — | **1.4** |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.0 \times 10^{-2}$ | — | — | — | $8.9 \times 10^{-3}$ | — | — | — | $2.7 \times 10^{-2}$ |
| Antimony | $1.3 \times 10^{-1}$ | — | — | — | $5.6 \times 10^{-2}$ | — | — | — | $8.6 \times 10^{-2}$ |
| Arsenic | $2.1 \times 10^{-1}$ | — | — | — | $9.4 \times 10^{-2}$ | — | — | — | $1.6 \times 10^{-1}$ |
| Cadmium | $3.2 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-3}$ | — | — | — | $3.2 \times 10^{-2}$ |
| Cobalt | **1.0** | — | — | — | $1.9 \times 10^{-2}$ | — | — | — | $9.5 \times 10^{-1}$ |
| Copper | $1.9 \times 10^{-2}$ | — | — | — | $1.4 \times 10^{-3}$ | — | — | — | $1.9 \times 10^{-2}$ |
| Cyanide | $1.0 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-3}$ | — | — | — | $8.8 \times 10^{-3}$ |
| Lead[1] | 3.7 | — | — | — | 9.4 | — | — | — | 3.2 |
| Mercury | $3.3 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-4}$ | — | — | — | $3.0 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | — | — | — | $1.7 \times 10^{-5}$ | — | — | — | $1.2 \times 10^{-1}$ |
| Silver | $2.6 \times 10^{-3}$ | — | — | — | $4.4 \times 10^{-4}$ | — | — | — | $2.3 \times 10^{-3}$ |
| Thallium | **7.5** | — | — | — | $4.2 \times 10^{-1}$ | — | — | — | 7.0 |
| Uranium | $6.4 \times 10^{-2}$ | — | — | — | $1.6 \times 10^{-2}$ | — | — | — | $4.8 \times 10^{-2}$ |
| Zinc | **1.0** | — | — | — | $5.7 \times 10^{-2}$ | — | — | — | **1.1** |

**Table 4.6.3.2-1A: Resident Hazard Quotient via Sum of All Pathways (Study Area 1) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.4 \times 10^{-2}$ | — | — | — | $1.0 \times 10^{-2}$ | — | — | — | $2.9 \times 10^{-2}$ |
| Antimony | $1.5 \times 10^{-1}$ | — | — | — | $6.8 \times 10^{-2}$ | — | — | — | $1.0 \times 10^{-1}$ |
| Arsenic | $2.6 \times 10^{-1}$ | — | — | — | $1.1 \times 10^{-1}$ | — | — | — | $1.9 \times 10^{-1}$ |
| Cadmium | $3.4 \times 10^{-2}$ | — | — | — | $2.5 \times 10^{-3}$ | — | — | — | $3.4 \times 10^{-2}$ |
| Cobalt | **1.2** | — | — | — | $2.4 \times 10^{-2}$ | — | — | — | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | — | — | — | $1.7 \times 10^{-3}$ | — | — | — | $2.2 \times 10^{-2}$ |
| Cyanide | $1.2 \times 10^{-2}$ | — | — | — | $2.5 \times 10^{-3}$ | — | — | — | $9.8 \times 10^{-3}$ |
| Lead[1] | 3.4 | — | — | — | 7.8 | — | — | — | 2.9 |
| Mercury | $3.7 \times 10^{-3}$ | — | — | — | $1.9 \times 10^{-4}$ | — | — | — | $3.3 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | — | — | — | $2.2 \times 10^{-5}$ | — | — | — | $1.1 \times 10^{-1}$ |
| Silver | $3.0 \times 10^{-3}$ | — | — | — | $5.3 \times 10^{-4}$ | — | — | — | $2.5 \times 10^{-3}$ |
| Thallium | **8.0** | — | — | — | $5.2 \times 10^{-1}$ | — | — | — | 7.4 |
| Uranium | $6.9 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-2}$ | — | — | — | $5.0 \times 10^{-2}$ |
| Zinc | **1.3** | — | — | — | $7.3 \times 10^{-2}$ | — | — | — | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.2-1B: Resident Risk Characterization via Sum of All Pathways (Study Area 2)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $2.6 \times 10^{-2}$ | $1.3 \times 10^{-4}$ | $5.6 \times 10^{-5}$ | $5.6 \times 10^{-5}$ | $5.5 \times 10^{-5}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Antimony | $2.1 \times 10^{-1}$ | $8.9 \times 10^{-5}$ | $6.7 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Arsenic | $3.4 \times 10^{-1}$ | $4.9 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.0 \times 10^{-4}$ | $9.8 \times 10^{-5}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ |
| Cadmium | $4.3 \times 10^{-3}$ | $8.6 \times 10^{-6}$ | $2.9 \times 10^{-6}$ | $2.1 \times 10^{-6}$ | $2.0 \times 10^{-6}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ |
| Cobalt | $9.9 \times 10^{-2}$ | $9.0 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.2 \times 10^{-4}$ | $9.9 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.3 \times 10^{-2}$ |
| Copper | $1.9 \times 10^{-3}$ | $3.5 \times 10^{-6}$ | $9.6 \times 10^{-7}$ | $7.5 \times 10^{-7}$ | $1.4 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |
| Cyanide | $7.4 \times 10^{-3}$ | 0.0 | 0.0 | 0.0 | 0.0 | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ |
| Lead[1] | 4.6 | 30566.8 | 1984.8 | 1863.5 | 97.1 | 4.6 | 4.6 | 4.6 | 4.4 |
| Mercury | $1.1 \times 10^{-3}$ | $7.0 \times 10^{-7}$ | $1.7 \times 10^{-7}$ | $1.2 \times 10^{-7}$ | $1.1 \times 10^{-7}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |
| Methylmercury | $1.6 \times 10^{-4}$ | 0.0 | $4.4 \times 10^{-9}$ | 0.0 | 0.0 | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ |
| Silver | $1.9 \times 10^{-3}$ | $2.0 \times 10^{-6}$ | $2.4 \times 10^{-6}$ | $2.2 \times 10^{-6}$ | $2.2 \times 10^{-6}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ |
| Thallium | **2.0** | $1.8 \times 10^{-4}$ | $3.8 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | 2.0 | 2.0 | 2.0 | 2.0 |
| Uranium | $6.9 \times 10^{-2}$ | $1.3 \times 10^{-6}$ | $1.1 \times 10^{-6}$ | $1.0 \times 10^{-6}$ | $1.0 \times 10^{-6}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ |
| Zinc | $2.4 \times 10^{-2}$ | $7.3 \times 10^{-5}$ | $5.2 \times 10^{-5}$ | $4.9 \times 10^{-5}$ | $8.5 \times 10^{-4}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.5 \times 10^{-2}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $6.1 \times 10^{-2}$ |
| Antimony | $2.7 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.7 \times 10^{-1}$ |
| Arsenic | $4.8 \times 10^{-1}$ | $2.9 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $8.1 \times 10^{-4}$ | $5.0 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $4.8 \times 10^{-1}$ |
| Cadmium | $6.3 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.4 \times 10^{-5}$ | $6.3 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.3 \times 10^{-2}$ |
| Cobalt | **2.0** | $3.7 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $8.2 \times 10^{-4}$ | 1.9 | 1.8 | 2.0 | 1.9 |
| Copper | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ |
| Cyanide | $2.0 \times 10^{-2}$ | 0.0 | $8.1 \times 10^{-5}$ | 0.0 | $6.4 \times 10^{-7}$ | $1.9 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ |
| Lead[1] | 1.3 | 7.8 | 7.6 | 7.6 | 29.6 | 1.2 | 1.1 | 1.1 | 1.3 |
| Mercury | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $6.9 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $7.0 \times 10^{-3}$ | $6.3 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | 0.0 | $5.7 \times 10^{-6}$ | 0.0 | $5.2 \times 10^{-10}$ | $1.9 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Silver | $5.2 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.5 \times 10^{-4}$ | $3.5 \times 10^{-4}$ | $1.6 \times 10^{-5}$ | $5.4 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.2 \times 10^{-3}$ |
| Thallium | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.3 \times 10^{-3}$ | $1.3 \times 10^{1}$ | **1.5** $\times 10^{1}$ | $1.4 \times 10^{1}$ | $1.4 \times 10^{1}$ |
| Uranium | $1.3 \times 10^{-1}$ | $4.1 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $2.4 \times 10^{-6}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Zinc | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |

**Table 4.6.3.2-1B: Resident Hazard Quotient via Sum of All Pathways (Study Area 2) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $4.8 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.3 \times 10^{-4}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $4.9 \times 10^{-2}$ |
| Antimony | $1.9 \times 10^{-1}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $3.0 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.9 \times 10^{-1}$ |
| Arsenic | $3.1 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $4.9 \times 10^{-4}$ | $3.3 \times 10^{-1}$ | $3.3 \times 10^{-1}$ | $3.3 \times 10^{-1}$ | $3.1 \times 10^{-1}$ |
| Cadmium | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.7 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.7 \times 10^{-2}$ |
| Cobalt | **1.5** | $2.8 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.6 \times 10^{-4}$ | 1.4 | 1.4 | 1.5 | 1.4 |
| Copper | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $8.1 \times 10^{-4}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ |
| Cyanide | $1.9 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Lead[1] | 2.0 | 10.5 | 10.3 | 10.3 | 40.7 | 1.7 | 1.7 | 1.7 | 1.9 |
| Mercury | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.9 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $7.7 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | 0.0 | $1.9 \times 10^{-5}$ | 0.0 | $3.8 \times 10^{-10}$ | $6.3 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ |
| Silver | $4.6 \times 10^{-3}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $1.1 \times 10^{-5}$ | $4.7 \times 10^{-3}$ | $4.9 \times 10^{-3}$ | $4.9 \times 10^{-3}$ | $4.6 \times 10^{-3}$ |
| Thallium | **$2.6 \times 10^{1}$** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $2.5 \times 10^{1}$ | $2.7 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.6 \times 10^{1}$ |
| Uranium | $9.7 \times 10^{-2}$ | $3.1 \times 10^{-5}$ | $3.0 \times 10^{-5}$ | $3.0 \times 10^{-5}$ | $1.5 \times 10^{-6}$ | $9.5 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ |
| Zinc | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.7** | **1.7** | 1.3 |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.0 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $6.8 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $3.1 \times 10^{-2}$ |
| Antimony | $1.3 \times 10^{-1}$ | $7.5 \times 10^{-3}$ | $7.6 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $2.1 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Arsenic | $2.1 \times 10^{-1}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.5 \times 10^{-4}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.2 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Cobalt | **1.0** | $2.0 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-4}$ | 1.0 | $9.5 \times 10^{-1}$ | 1.1 | $9.6 \times 10^{-1}$ |
| Copper | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.5 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Cyanide | $1.0 \times 10^{-2}$ | 0.0 | $4.6 \times 10^{-5}$ | 0.0 | $3.6 \times 10^{-7}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ |
| Lead[1] | 3.7 | 18.2 | 18.0 | 18.0 | 76.5 | 3.1 | 3.1 | 3.1 | 3.5 |
| Mercury | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | 0.0 | $3.3 \times 10^{-6}$ | 0.0 | $3.0 \times 10^{-10}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Silver | $2.6 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $2.7 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $2.6 \times 10^{-3}$ |
| Thallium | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | 7.1 | **8.2** | 7.5 | 7.5 |
| Uranium | $6.4 \times 10^{-2}$ | $2.1 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $6.2 \times 10^{-2}$ | $6.4 \times 10^{-2}$ | $6.4 \times 10^{-2}$ | $6.4 \times 10^{-2}$ |
| Zinc | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | **1.3** | **1.3** | **1.3** | 1.0 |

**Table 4.6.3.2-1B: Resident Hazard Quotient via Sum of All Pathways (Study Area 2) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.4 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $7.1 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Antimony | $1.5 \times 10^{-1}$ | $7.9 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $2.2 \times 10^{-4}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.5 \times 10^{-1}$ |
| Arsenic | $2.6 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $4.1 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.6 \times 10^{-1}$ |
| Cadmium | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.4 \times 10^{-2}$ |
| Cobalt | **1.2** | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | 1.1 | 1.1 | 1.2 | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $6.5 \times 10^{-4}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Cyanide | $1.2 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ |
| Lead[1] | 3.4 | 15.8 | 15.6 | 15.6 | 72.1 | 2.9 | 2.8 | 2.8 | 3.3 |
| Mercury | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | 0.0 | $3.1 \times 10^{-6}$ | 0.0 | $3.8 \times 10^{-10}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Silver | $3.0 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $9.9 \times 10^{-6}$ | $3.1 \times 10^{-3}$ | $3.2 \times 10^{-3}$ | $3.2 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| Thallium | **8.0** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 7.6 | **8.9** | 8.0 | 8.0 |
| Uranium | $6.9 \times 10^{-2}$ | $2.1 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $6.8 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ |
| Zinc | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.2-1C: Resident Risk Characterization via Sum of All Pathways (Study Area 3)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $2.6 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $5.5 \times 10^{-5}$ | $5.6 \times 10^{-5}$ | $5.5 \times 10^{-5}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Antimony | $2.1 \times 10^{-1}$ | $9.7 \times 10^{-5}$ | $6.6 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Arsenic | $3.4 \times 10^{-1}$ | $5.4 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.0 \times 10^{-4}$ | $9.8 \times 10^{-5}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ |
| Cadmium | $4.3 \times 10^{-3}$ | $9.4 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.1 \times 10^{-6}$ | $2.0 \times 10^{-6}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ |
| Cobalt | $9.9 \times 10^{-2}$ | $9.9 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.2 \times 10^{-4}$ | $9.9 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.3 \times 10^{-2}$ |
| Copper | $1.9 \times 10^{-3}$ | $3.8 \times 10^{-6}$ | $9.3 \times 10^{-7}$ | $7.6 \times 10^{-7}$ | $1.4 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |
| Cyanide | $7.4 \times 10^{-3}$ | 0.0 | 0.0 | 0.0 | 0.0 | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ | $7.4 \times 10^{-3}$ |
| Lead[1] | 4.6 | 30566.8 | 1984.8 | 1863.5 | 97.1 | 4.6 | 4.6 | 4.6 | 4.4 |
| Mercury | $1.1 \times 10^{-3}$ | $7.6 \times 10^{-7}$ | $1.7 \times 10^{-7}$ | $1.2 \times 10^{-7}$ | $1.1 \times 10^{-7}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |
| Methylmercury | $1.6 \times 10^{-4}$ | 0.0 | $4.4 \times 10^{-9}$ | 0.0 | 0.0 | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ |
| Silver | $1.9 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $2.4 \times 10^{-6}$ | $2.2 \times 10^{-6}$ | $2.2 \times 10^{-6}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ |
| Thallium | **2.0** | $2.0 \times 10^{-4}$ | $3.8 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | 2.0 | 2.0 | 2.0 | 2.0 |
| Uranium | $6.9 \times 10^{-2}$ | $1.4 \times 10^{-6}$ | $1.1 \times 10^{-6}$ | $1.0 \times 10^{-6}$ | $1.0 \times 10^{-6}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ |
| Zinc | $2.4 \times 10^{-2}$ | $7.9 \times 10^{-5}$ | $5.1 \times 10^{-5}$ | $4.9 \times 10^{-5}$ | $8.5 \times 10^{-4}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.5 \times 10^{-2}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $6.1 \times 10^{-2}$ |
| Antimony | $2.7 \times 10^{-1}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $2.7 \times 10^{-1}$ |
| Arsenic | $4.8 \times 10^{-1}$ | $2.9 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $8.1 \times 10^{-4}$ | $5.0 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $4.8 \times 10^{-1}$ |
| Cadmium | $6.3 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.4 \times 10^{-5}$ | $6.3 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.3 \times 10^{-2}$ |
| Cobalt | **2.0** | $3.7 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $8.2 \times 10^{-4}$ | 1.9 | 1.8 | 2.0 | 1.9 |
| Copper | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ |
| Cyanide | $2.0 \times 10^{-2}$ | 0.0 | $8.1 \times 10^{-5}$ | 0.0 | $6.4 \times 10^{-7}$ | $1.9 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ |
| Lead[1] | 1.3 | 7.8 | 7.6 | 7.6 | 29.6 | 1.2 | 1.1 | 1.1 | 1.3 |
| Mercury | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $6.9 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $7.0 \times 10^{-3}$ | $6.3 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | 0.0 | $5.7 \times 10^{-6}$ | 0.0 | $5.2 \times 10^{-10}$ | $1.9 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Silver | $5.2 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.5 \times 10^{-4}$ | $3.5 \times 10^{-4}$ | $1.6 \times 10^{-5}$ | $5.4 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.2 \times 10^{-3}$ |
| Thallium | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.3 \times 10^{-3}$ | $1.3 \times 10^{1}$ | **1.5** $\times 10^{1}$ | $1.4 \times 10^{1}$ | $1.4 \times 10^{1}$ |
| Uranium | $1.3 \times 10^{-1}$ | $4.1 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $2.4 \times 10^{-6}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Zinc | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |

**Table 4.6.3.2-1C: Resident Hazard Quotient via Sum of All Pathways (Study Area 3) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $4.8 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.3 \times 10^{-4}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $4.9 \times 10^{-2}$ |
| Antimony | $1.9 \times 10^{-1}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $3.0 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.9 \times 10^{-1}$ |
| Arsenic | $3.1 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $4.9 \times 10^{-4}$ | $3.3 \times 10^{-1}$ | $3.3 \times 10^{-1}$ | $3.3 \times 10^{-1}$ | $3.1 \times 10^{-1}$ |
| Cadmium | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.7 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.7 \times 10^{-2}$ |
| Cobalt | **1.5** | $2.8 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.6 \times 10^{-4}$ | 1.4 | 1.4 | 1.5 | 1.4 |
| Copper | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $8.1 \times 10^{-4}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ |
| Cyanide | $1.9 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Lead[1] | 2.0 | 10.5 | 10.3 | 10.3 | 40.7 | 1.7 | 1.7 | 1.7 | 1.9 |
| Mercury | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.9 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $7.7 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | 0.0 | $1.9 \times 10^{-5}$ | 0.0 | $3.8 \times 10^{-10}$ | $6.3 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ |
| Silver | $4.6 \times 10^{-3}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $1.1 \times 10^{-5}$ | $4.7 \times 10^{-3}$ | $4.9 \times 10^{-3}$ | $4.9 \times 10^{-3}$ | $4.6 \times 10^{-3}$ |
| Thallium | **$2.6 \times 10^{1}$** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $2.5 \times 10^{1}$ | $2.7 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.6 \times 10^{1}$ |
| Uranium | $9.7 \times 10^{-2}$ | $3.1 \times 10^{-5}$ | $3.0 \times 10^{-5}$ | $3.0 \times 10^{-5}$ | $1.5 \times 10^{-6}$ | $9.5 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ |
| Zinc | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.7** | **1.7** | 1.3 |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.0 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $6.8 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $3.1 \times 10^{-2}$ |
| Antimony | $1.3 \times 10^{-1}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $2.1 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Arsenic | $2.1 \times 10^{-1}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.5 \times 10^{-4}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.2 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Cobalt | **1.0** | $2.0 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-4}$ | 1.0 | $9.5 \times 10^{-1}$ | 1.1 | $9.6 \times 10^{-1}$ |
| Copper | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.5 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Cyanide | $1.0 \times 10^{-2}$ | 0.0 | $4.6 \times 10^{-5}$ | 0.0 | $3.6 \times 10^{-7}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ |
| Lead[1] | 3.7 | 18.2 | 18.0 | 18.0 | 76.5 | 3.1 | 3.1 | 3.1 | 3.5 |
| Mercury | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | 0.0 | $3.3 \times 10^{-6}$ | 0.0 | $3.0 \times 10^{-10}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Silver | $2.6 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $2.7 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $2.6 \times 10^{-3}$ |
| Thallium | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | 7.1 | **8.2** | 7.5 | 7.5 |
| Uranium | $6.4 \times 10^{-2}$ | $2.1 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $6.2 \times 10^{-2}$ | $6.4 \times 10^{-2}$ | $6.4 \times 10^{-2}$ | $6.4 \times 10^{-2}$ |
| Zinc | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | **1.3** | **1.3** | **1.3** | 1.0 |

**Table 4.6.3.2-1C: Resident Hazard Quotient via Sum of All Pathways (Study Area 3) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.4 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $7.1 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Antimony | $1.5 \times 10^{-1}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $2.2 \times 10^{-4}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.6 \times 10^{-1}$ | $1.5 \times 10^{-1}$ |
| Arsenic | $2.6 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $4.1 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.6 \times 10^{-1}$ |
| Cadmium | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.4 \times 10^{-2}$ |
| Cobalt | **1.2** | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | 1.1 | 1.1 | 1.2 | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $6.5 \times 10^{-4}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Cyanide | $1.2 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ |
| Lead[1] | 3.4 | 15.8 | 15.6 | 15.6 | 72.1 | 2.9 | 2.8 | 2.8 | 3.3 |
| Mercury | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | 0.0 | $3.1 \times 10^{-6}$ | 0.0 | $3.8 \times 10^{-10}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Silver | $3.0 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $9.9 \times 10^{-6}$ | $3.1 \times 10^{-3}$ | $3.2 \times 10^{-3}$ | $3.2 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| Thallium | **8.0** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 7.6 | **8.9** | 8.0 | 8.0 |
| Uranium | $6.9 \times 10^{-2}$ | $2.1 \times 10^{-5}$ | $2.1 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $1.0 \times 10^{-6}$ | $6.8 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ |
| Zinc | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.2-2: Resident Incremental Lifetime Cancer Risk via Sum of All Pathways**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | |
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| Off Set Scenario 1 | | | | | | | | | |
| Arsenic | $1.3 \times \mathbf{10^{-4}}$ | — | — | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ |
| Off Set Scenario 2 | | | | | | | | | |
| Arsenic | $1.3 \times \mathbf{10^{-4}}$ | — | — | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ |
| Off Set Scenario 3 | | | | | | | | | |
| Arsenic | $1.3 \times \mathbf{10^{-4}}$ | $6.8 \times 10^{-5}$ | $1.0 \times 10^{-4}$ | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ | $1.3 \times \mathbf{10^{-4}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ |

**NOTES:**

Units: Unitless fraction

**BOLD AND SHADED**: Calculated hazard quotient exceeds Health Canada risk benchmark of $1 \times 10^{-6}$ for total exposure to carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, dermal contact, and ingestion of country foods)

**BOLD AND SHADED**: Residual adverse effect identified. A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of $1 \times 10^{-6}$ and is larger than the risk estimate for the Base Case Assessment Scenario.

**Table 4.6.3.2-3A: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.1)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $9.4 \times 10^{-2}$ | — | — | — | $4.7 \times 10^{-2}$ | — | — | — | $4.7 \times 10^{-2}$ |
| Respiratory | $9.9 \times 10^{-2}$ | — | — | — | $3.9 \times 10^{-2}$ | — | — | — | $6.8 \times 10^{-2}$ |
| Developmental | $2.4 \times 10^{-2}$ | — | — | — | $2.7 \times 10^{-2}$ | — | — | — | $3.8 \times 10^{-2}$ |
| Digestive Track | $1.9 \times 10^{-3}$ | — | — | — | $1.8 \times 10^{-3}$ | — | — | — | $2.5 \times 10^{-3}$ |
| Renal | $4.3 \times 10^{-3}$ | — | — | — | $3.9 \times 10^{-3}$ | — | — | — | $4.8 \times 10^{-3}$ |
| Vascular | $5.6 \times 10^{-1}$ | — | — | — | $3.2 \times 10^{-1}$ | — | — | — | $3.5 \times 10^{-1}$ |
| Integumentary | **2.0** | — | — | — | $8.9 \times 10^{-1}$ | — | — | — | 1.0 |
| Nephrotoxicity | $1.1 \times 10^{-3}$ | — | — | — | $2.5 \times 10^{-4}$ | — | — | — | $2.9 \times 10^{-4}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.9 \times 10^{-1}$ | — | — | — | $5.2 \times 10^{-2}$ | — | — | — | $3.5 \times 10^{-1}$ |
| Respiratory | **2.0** | — | — | — | $4.4 \times 10^{-2}$ | — | — | — | 1.8 |
| Developmental | **1.8** | — | — | — | $1.1 \times 10^{-1}$ | — | — | — | **1.9** |
| Digestive Track | $3.6 \times 10^{-2}$ | — | — | — | $2.8 \times 10^{-3}$ | — | — | — | $3.8 \times 10^{-2}$ |
| Renal | $6.3 \times 10^{-2}$ | — | — | — | $4.3 \times 10^{-3}$ | — | — | — | $6.4 \times 10^{-2}$ |
| Vascular | $7.6 \times 10^{-1}$ | — | — | — | $3.2 \times 10^{-1}$ | — | — | — | $5.6 \times 10^{-1}$ |
| Integumentary | **1.4** $\times 10^{1}$ | — | — | — | $8.8 \times 10^{-1}$ | — | — | — | $1.3 \times 10^{1}$ |
| Nephrotoxicity | $6.3 \times 10^{-3}$ | — | — | — | $3.2 \times 10^{-4}$ | — | — | — | $5.6 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $8.1 \times 10^{-1}$ | — | — | — | $3.6 \times 10^{-2}$ | — | — | — | $7.8 \times 10^{-1}$ |
| Respiratory | **1.5** | — | — | — | $2.8 \times 10^{-2}$ | — | — | — | 1.3 |
| Developmental | **1.3** | — | — | — | $7.7 \times 10^{-2}$ | — | — | — | **1.4** |
| Digestive Track | $2.6 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-3}$ | — | — | — | $2.7 \times 10^{-2}$ |
| Renal | $4.7 \times 10^{-2}$ | — | — | — | $2.9 \times 10^{-3}$ | — | — | — | $4.8 \times 10^{-2}$ |
| Vascular | $5.2 \times 10^{-1}$ | — | — | — | $2.2 \times 10^{-1}$ | — | — | — | $3.8 \times 10^{-1}$ |
| Integumentary | **2.6** $\times 10^{1}$ | — | — | — | $6.0 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{1}$ |
| Nephrotoxicity | $7.7 \times 10^{-3}$ | — | — | — | $2.2 \times 10^{-4}$ | — | — | — | $7.2 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{-2}$ | — | — | — | $1.9 \times 10^{-1}$ |
| Respiratory | **1.0** | — | — | — | $1.9 \times 10^{-2}$ | — | — | — | $9.5 \times 10^{-1}$ |
| Developmental | **1.0** | — | — | — | $5.7 \times 10^{-2}$ | — | — | — | **1.1** |
| Digestive Track | $1.9 \times 10^{-2}$ | — | — | — | $1.4 \times 10^{-3}$ | — | — | — | $1.9 \times 10^{-2}$ |

**Table 4.6.3.2-3A: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.1) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.2 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-3}$ | — | — | — | $3.2 \times 10^{-2}$ |
| Vascular | $3.5 \times 10^{-1}$ | — | — | — | $1.5 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{-1}$ |
| Integumentary | **7.5** | — | — | — | $4.2 \times 10^{-1}$ | — | — | — | 7.0 |
| Nephrotoxicity | $3.3 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-4}$ | — | — | — | $3.0 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | — | — | — | $3.0 \times 10^{-2}$ | — | — | — | $1.9 \times 10^{-1}$ |
| Respiratory | **1.2** | — | — | — | $2.4 \times 10^{-2}$ | — | — | — | 1.1 |
| Developmental | **1.3** | — | — | — | $7.3 \times 10^{-2}$ | — | — | — | **1.3** |
| Digestive Track | $2.1 \times 10^{-2}$ | — | — | — | $1.7 \times 10^{-3}$ | — | — | — | $2.2 \times 10^{-2}$ |
| Renal | $3.4 \times 10^{-2}$ | — | — | — | $2.5 \times 10^{-3}$ | — | — | — | $3.4 \times 10^{-2}$ |
| Vascular | $4.2 \times 10^{-1}$ | — | — | — | $1.9 \times 10^{-1}$ | — | — | — | $3.0 \times 10^{-1}$ |
| Integumentary | **8.0** | — | — | — | $5.2 \times 10^{-1}$ | — | — | — | 7.4 |
| Nephrotoxicity | $3.7 \times 10^{-3}$ | — | — | — | $1.9 \times 10^{-4}$ | — | — | — | $3.3 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 4.6.3.2-3B: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.2)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $9.4 \times 10^{-2}$ | $1.3 \times 10^{-4}$ | $5.7 \times 10^{-5}$ | $5.7 \times 10^{-5}$ | $5.6 \times 10^{-5}$ | $9.4 \times 10^{-2}$ | $9.5 \times 10^{-2}$ | $9.5 \times 10^{-2}$ | $9.4 \times 10^{-2}$ |
| Respiratory | $9.9 \times 10^{-2}$ | $9.0 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.2 \times 10^{-4}$ | $9.9 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.3 \times 10^{-2}$ |
| Developmental | $2.4 \times 10^{-2}$ | $7.3 \times 10^{-5}$ | $5.2 \times 10^{-5}$ | $4.9 \times 10^{-5}$ | $8.5 \times 10^{-4}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.5 \times 10^{-2}$ |
| Digestive Track | $1.9 \times 10^{-3}$ | $3.5 \times 10^{-6}$ | $9.6 \times 10^{-7}$ | $7.5 \times 10^{-7}$ | $1.4 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |
| Renal | $4.3 \times 10^{-3}$ | $8.6 \times 10^{-6}$ | $2.9 \times 10^{-6}$ | $2.1 \times 10^{-6}$ | $2.0 \times 10^{-6}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ |
| Vascular | $5.6 \times 10^{-1}$ | $5.8 \times 10^{-4}$ | $2.0 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.4 \times 10^{-4}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ |
| Integumentary | **2.0** | $1.8 \times 10^{-4}$ | $3.9 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | 2.0 | 2.0 | 2.0 | 2.0 |
| Nephrotoxicity | $1.1 \times 10^{-3}$ | $7.0 \times 10^{-7}$ | $1.7 \times 10^{-7}$ | $1.2 \times 10^{-7}$ | $1.1 \times 10^{-7}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.9 \times 10^{-1}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $4.5 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $3.9 \times 10^{-1}$ |
| Respiratory | **2.0** | $3.7 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $8.2 \times 10^{-4}$ | 1.9 | 1.8 | 2.0 | 1.9 |
| Developmental | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |
| Digestive Track | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ |
| Renal | $6.3 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.4 \times 10^{-5}$ | $6.3 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.3 \times 10^{-2}$ |
| Vascular | $7.6 \times 10^{-1}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $7.9 \times 10^{-1}$ | $8.0 \times 10^{-1}$ | $8.0 \times 10^{-1}$ | $7.6 \times 10^{-1}$ |
| Integumentary | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.4 \times 10^{-3}$ | $1.3 \times 10^{1}$ | **1.5** $\times 10^{1}$ | $1.4 \times 10^{1}$ | $1.4 \times 10^{1}$ |
| Nephrotoxicity | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $6.9 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $7.0 \times 10^{-3}$ | $6.3 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $8.1 \times 10^{-1}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.3 \times 10^{-4}$ | $8.3 \times 10^{-1}$ | $8.6 \times 10^{-1}$ | $8.6 \times 10^{-1}$ | $8.1 \times 10^{-1}$ |
| Respiratory | **1.5** | $2.8 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.6 \times 10^{-4}$ | 1.4 | 1.4 | 1.5 | 1.4 |
| Developmental | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.7** | **1.7** | 1.3 |
| Digestive Track | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $8.1 \times 10^{-4}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ |
| Renal | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.7 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.7 \times 10^{-2}$ |
| Vascular | $5.2 \times 10^{-1}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $7.9 \times 10^{-4}$ | $5.4 \times 10^{-1}$ | $5.5 \times 10^{-1}$ | $5.5 \times 10^{-1}$ | $5.2 \times 10^{-1}$ |
| Integumentary | **2.6** $\times 10^{1}$ | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $2.5 \times 10^{1}$ | $2.7 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.6 \times 10^{1}$ |
| Nephrotoxicity | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.9 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $7.7 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $2.4 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Respiratory | **1.0** | $2.0 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-4}$ | 1.0 | $9.5 \times 10^{-1}$ | 1.1 | $9.6 \times 10^{-1}$ |
| Developmental | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | **1.3** | **1.3** | **1.3** | 1.0 |
| Digestive Track | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.5 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |

**Table 4.6.3.2-3B: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.2) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.2 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Vascular | $3.5 \times 10^{-1}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $5.6 \times 10^{-4}$ | $3.7 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $3.5 \times 10^{-1}$ |
| Integumentary | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | 7.1 | **8.2** | 7.5 | 7.5 |
| Nephrotoxicity | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $2.4 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Respiratory | **1.2** | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | 1.1 | 1.1 | 1.2 | 1.1 |
| Developmental | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $6.5 \times 10^{-4}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Renal | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.4 \times 10^{-2}$ |
| Vascular | $4.2 \times 10^{-1}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $4.4 \times 10^{-1}$ | $4.4 \times 10^{-1}$ | $4.4 \times 10^{-1}$ | $4.2 \times 10^{-1}$ |
| Integumentary | **8.0** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 7.7 | **8.9** | 8.0 | 8.0 |
| Nephrotoxicity | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 4.6.3.2-3C: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.3)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $9.4 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $5.6 \times 10^{-5}$ | $5.7 \times 10^{-5}$ | $5.6 \times 10^{-5}$ | $9.4 \times 10^{-2}$ | $9.5 \times 10^{-2}$ | $9.5 \times 10^{-2}$ | $9.4 \times 10^{-2}$ |
| Respiratory | $9.9 \times 10^{-2}$ | $9.9 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.2 \times 10^{-4}$ | $9.9 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.3 \times 10^{-2}$ |
| Developmental | $2.4 \times 10^{-2}$ | $7.9 \times 10^{-5}$ | $5.1 \times 10^{-5}$ | $4.9 \times 10^{-5}$ | $8.5 \times 10^{-4}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.5 \times 10^{-2}$ |
| Digestive Track | $1.9 \times 10^{-3}$ | $3.8 \times 10^{-6}$ | $9.3 \times 10^{-7}$ | $7.6 \times 10^{-7}$ | $1.4 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |
| Renal | $4.3 \times 10^{-3}$ | $9.4 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.1 \times 10^{-6}$ | $2.0 \times 10^{-6}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ |
| Vascular | $5.6 \times 10^{-1}$ | $6.4 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.4 \times 10^{-4}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ |
| Integumentary | **2.0** | $2.0 \times 10^{-4}$ | $3.8 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | 2.0 | 2.0 | 2.0 | 2.0 |
| Nephrotoxicity | $1.1 \times 10^{-3}$ | $7.6 \times 10^{-7}$ | $1.7 \times 10^{-7}$ | $1.2 \times 10^{-7}$ | $1.1 \times 10^{-7}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.9 \times 10^{-1}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $4.5 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $3.9 \times 10^{-1}$ |
| Respiratory | **2.0** | $3.7 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $8.2 \times 10^{-4}$ | 1.9 | 1.8 | 2.0 | 1.9 |
| Developmental | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |
| Digestive Track | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ |
| Renal | $6.3 \times 10^{-2}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.4 \times 10^{-5}$ | $6.3 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $6.3 \times 10^{-2}$ |
| Vascular | $7.6 \times 10^{-1}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $7.9 \times 10^{-1}$ | $8.0 \times 10^{-1}$ | $8.0 \times 10^{-1}$ | $7.6 \times 10^{-1}$ |
| Integumentary | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.4 \times 10^{-3}$ | $1.3 \times 10^{1}$ | **1.5** $\times 10^{1}$ | $1.4 \times 10^{1}$ | $1.4 \times 10^{1}$ |
| Nephrotoxicity | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $6.9 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $7.0 \times 10^{-3}$ | $6.3 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $8.1 \times 10^{-1}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.3 \times 10^{-4}$ | $8.3 \times 10^{-1}$ | $8.6 \times 10^{-1}$ | $8.6 \times 10^{-1}$ | $8.1 \times 10^{-1}$ |
| Respiratory | **1.5** | $2.8 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.6 \times 10^{-4}$ | 1.4 | 1.4 | 1.5 | 1.4 |
| Developmental | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.7** | **1.7** | 1.3 |
| Digestive Track | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $8.1 \times 10^{-4}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ |
| Renal | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.7 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.7 \times 10^{-2}$ |
| Vascular | $5.2 \times 10^{-1}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $7.9 \times 10^{-4}$ | $5.4 \times 10^{-1}$ | $5.5 \times 10^{-1}$ | $5.5 \times 10^{-1}$ | $5.2 \times 10^{-1}$ |
| Integumentary | **2.6** $\times 10^{1}$ | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $2.5 \times 10^{1}$ | $2.7 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.6 \times 10^{1}$ |
| Nephrotoxicity | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.9 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $8.2 \times 10^{-3}$ | $7.7 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $2.4 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Respiratory | **1.0** | $2.0 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.3 \times 10^{-4}$ | 1.0 | $9.5 \times 10^{-1}$ | 1.1 | $9.6 \times 10^{-1}$ |
| Developmental | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | **1.3** | **1.3** | **1.3** | 1.0 |
| Digestive Track | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.5 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |

**Table 4.6.3.2-3C: Additive Chemical Interactions for a Resident via Sum of All Exposure Pathways (Study Area No.3) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.2 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Vascular | $3.5 \times 10^{-1}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $5.6 \times 10^{-4}$ | $3.7 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $3.5 \times 10^{-1}$ |
| Integumentary | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | 7.1 | **8.2** | 7.5 | 7.5 |
| Nephrotoxicity | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $2.4 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.5 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Respiratory | **1.2** | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | 1.1 | 1.1 | 1.2 | 1.1 |
| Developmental | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $6.5 \times 10^{-4}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Renal | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.4 \times 10^{-2}$ |
| Vascular | $4.2 \times 10^{-1}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $6.3 \times 10^{-4}$ | $4.4 \times 10^{-1}$ | $4.4 \times 10^{-1}$ | $4.4 \times 10^{-1}$ | $4.2 \times 10^{-1}$ |
| Integumentary | **8.0** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 7.7 | **8.9** | 8.0 | 8.0 |
| Nephrotoxicity | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

#### 4.6.3.3 Visitor/ Harvester

For Study Area No 1., no residual adverse effects were identified to a visitor/ harvester who may resume their practice of traditional land and resource use following closure of the Project (Table 4.6.3.3-1A).

For Study Area No 2., the LSA residual adverse effects were identified via thallium exposure to a Visitor/Harvester (all ages except infant) who may reside in these Study Areas during all phases of the Project. A residual adverse effect was identified via zinc exposure to a resident (select age groups) for the active phases (i.e. Site Preparation and Construction, Operations and Closure) of the Project, however it does not extend into Post-Closure. It should be noted that the predicted risk estimates via the sum of all pathways also exceeded for thallium and zinc in the Base Case Assessment Scenario (Table 4.6.3.3-1B).

In Study Area No. 3, the Village of Wabigoon, a residual adverse effect was identified via zinc exposure to a resident (select age groups) for the active phases (i.e. Site Preparation and Construction, Operations and Closure) of the Project, however it does not extend into Post-Closure. It should be noted that the predicted risk estimates via the sum of all pathways also exceeded for thallium and zinc in the Base Case Assessment Scenario (Table 4.6.3.3-1C).

For all study areas, a residual adverse effect was identified for arsenic via the carcinogenic endpoint (Table 4.6.3.3-2). Offset Scenarios 1 and 2 are not applicable to Study Area 1 because the Operations Area will only be accessible to Project Workers for the time frame captured by these two offsets (i.e. -19 year to + 2 years from today). Therefore, Offset Scenario 3 may be used to define the residual adverse effects to a Resident using the Operations Area following closure of the Project (i.e. during the post-closure phase). There are no residual adverse effects identified in Offset Scenario 3 at Study Area No. 1 (the Operations Area). Residual adverse effects are identified for the additive chemical interaction endpoints for integumentary effects and developmental effects, given the toxicity of thallium and zinc respectively. It should be noted that the residual adverse effects via the sum of all pathways for the non-cancer endpoint and additive chemical interaction endpoint also exceeded for thallium and zinc in the Base Case Assessment Scenario.

For a Visitor/Harvester, potential non-cancer residual effects for thallium and zinc and cancer risk via exposure to arsenic are largely being driven by the ingestion of country foods. In all cases where a residual effect was identified in the Project Assessment Scenario, potential risk exceedances were observed in the Base Case Assessment Scenario (also driven primarily by country foods ingestion). Although the results indicate that potential risk in the existing environment via thallium, zinc and arsenic in country foods is present, this is unlikely to be a valid representation of potential risk in the existing environment but rather an artifact of the conservative assumptions relied upon in the risk assessment and the use of literature derived uptake factors for modelling chemical concentration into country food tissue. Given that the predictions for potential human health effects in the Project Assessment Scenario are modelled in part from the chemical concentrations in the Base Case Assessment Scenario, any artifact or uncertainty in the Base Case is compounded in the Project Assessment Scenario. The Follow-Up Program should be used to verify the assumptions relied upon with respect to baseline concentrations of thallium, zinc and arsenic in country foods, as well as for the determination of site-specific uptake factors. At this time, predicted risk to human receptors including for those that practice traditional land and resource and consume country foods is considered to be essentially negligible as a result of the Goliath Gold Project. Additional risk management or mitigation measures are not required at this time.

**Table 4.6.3.3-1A: Visitor/ Harvester Risk Characterization via Sum of All Pathways (Study Area 1)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-3}$ | — | — | — | $2.9 \times 10^{-3}$ | — | — | — | $2.9 \times 10^{-3}$ |
| Antimony | $5.0 \times 10^{-2}$ | — | — | — | $2.8 \times 10^{-2}$ | — | — | — | $2.9 \times 10^{-2}$ |
| Arsenic | $8.2 \times 10^{-2}$ | — | — | — | $4.6 \times 10^{-2}$ | — | — | — | $5.4 \times 10^{-2}$ |
| Cadmium | $1.0 \times 10^{-3}$ | — | — | — | $9.2 \times 10^{-4}$ | — | — | — | $1.2 \times 10^{-3}$ |
| Cobalt | $2.4 \times 10^{-2}$ | — | — | — | $9.3 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-2}$ |
| Copper | $4.7 \times 10^{-4}$ | — | — | — | $4.2 \times 10^{-4}$ | — | — | — | $6.1 \times 10^{-4}$ |
| Cyanide | $1.8 \times 10^{-3}$ | — | — | — | $1.0 \times 10^{-3}$ | — | — | — | $1.0 \times 10^{-3}$ |
| Lead[1] | 19.4 | — | — | — | 16.9 | — | — | — | 14.2 |
| Mercury | $2.5 \times 10^{-4}$ | — | — | — | $5.9 \times 10^{-5}$ | — | — | — | $6.9 \times 10^{-5}$ |
| Methylmercury | $3.8 \times 10^{-5}$ | — | — | — | $9.3 \times 10^{-6}$ | — | — | — | $9.3 \times 10^{-6}$ |
| Silver | $4.5 \times 10^{-4}$ | — | — | — | $2.0 \times 10^{-4}$ | — | — | — | $2.5 \times 10^{-4}$ |
| Thallium | $4.7 \times 10^{-1}$ | — | — | — | $2.1 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{-1}$ |
| Uranium | $1.6 \times 10^{-2}$ | — | — | — | $8.1 \times 10^{-3}$ | — | — | — | $8.3 \times 10^{-3}$ |
| Zinc | $5.8 \times 10^{-3}$ | — | — | — | $6.3 \times 10^{-3}$ | — | — | — | $9.1 \times 10^{-3}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $4.1 \times 10^{-2}$ | — | — | — | $9.3 \times 10^{-3}$ | — | — | — | $4.4 \times 10^{-2}$ |
| Antimony | $1.1 \times 10^{-1}$ | — | — | — | $2.9 \times 10^{-2}$ | — | — | — | $8.8 \times 10^{-2}$ |
| Arsenic | $2.0 \times 10^{-1}$ | — | — | — | $5.0 \times 10^{-2}$ | — | — | — | $1.8 \times 10^{-1}$ |
| Cadmium | $5.9 \times 10^{-2}$ | — | — | — | $1.3 \times 10^{-3}$ | — | — | — | $6.0 \times 10^{-2}$ |
| Cobalt | **1.9** | — | — | — | $1.3 \times 10^{-2}$ | — | — | — | 1.8 |
| Copper | $3.4 \times 10^{-2}$ | — | — | — | $1.5 \times 10^{-3}$ | — | — | — | $3.5 \times 10^{-2}$ |
| Cyanide | $1.5 \times 10^{-2}$ | — | — | — | $1.0 \times 10^{-3}$ | — | — | — | $1.4 \times 10^{-2}$ |
| Lead[1] | 1.8 | — | — | — | 10.0 | — | — | — | 1.6 |
| Mercury | $5.5 \times 10^{-3}$ | — | — | — | $1.3 \times 10^{-4}$ | — | — | — | $5.4 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | — | — | — | $9.2 \times 10^{-6}$ | — | — | — | $2.0 \times 10^{-1}$ |
| Silver | $3.7 \times 10^{-3}$ | — | — | — | $2.7 \times 10^{-4}$ | — | — | — | $3.6 \times 10^{-3}$ |
| Thallium | **1.2** $\times 10^{1}$ | — | — | — | $2.2 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{1}$ |
| Uranium | $7.8 \times 10^{-2}$ | — | — | — | $8.0 \times 10^{-3}$ | — | — | — | $7.1 \times 10^{-2}$ |
| Zinc | **1.8** | — | — | — | $8.6 \times 10^{-2}$ | — | — | — | 1.9 |

**Table 4.6.3.3-1A: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 1) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | — | — | — | $6.7 \times 10^{-3}$ | — | — | — | $3.8 \times 10^{-2}$ |
| Antimony | $8.1 \times 10^{-2}$ | — | — | — | $2.0 \times 10^{-2}$ | — | — | — | $6.9 \times 10^{-2}$ |
| Arsenic | $1.5 \times 10^{-1}$ | — | — | — | $3.3 \times 10^{-2}$ | — | — | — | $1.3 \times 10^{-1}$ |
| Cadmium | $4.5 \times 10^{-2}$ | — | — | — | $9.2 \times 10^{-4}$ | — | — | — | $4.6 \times 10^{-2}$ |
| Cobalt | **1.4** | — | — | — | $8.3 \times 10^{-3}$ | — | — | — | 1.3 |
| Copper | $2.5 \times 10^{-2}$ | — | — | — | $1.2 \times 10^{-3}$ | — | — | — | $2.6 \times 10^{-2}$ |
| Cyanide | $1.5 \times 10^{-2}$ | — | — | — | $6.7 \times 10^{-4}$ | — | — | — | $1.4 \times 10^{-2}$ |
| Lead[1] | 2.4 | — | — | — | 14.7 | — | — | — | 2.2 |
| Mercury | $7.1 \times 10^{-3}$ | — | — | — | $9.2 \times 10^{-5}$ | — | — | — | $7.1 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | — | — | — | $6.2 \times 10^{-6}$ | — | — | — | $6.6 \times 10^{-1}$ |
| Silver | $3.7 \times 10^{-3}$ | — | — | — | $1.9 \times 10^{-4}$ | — | — | — | $3.6 \times 10^{-3}$ |
| Thallium | **$2.5 \times 10^{1}$** | — | — | — | $1.5 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{1}$ |
| Uranium | $6.2 \times 10^{-2}$ | — | — | — | $5.4 \times 10^{-3}$ | — | — | — | $5.7 \times 10^{-2}$ |
| Zinc | **1.3** | — | — | — | $6.3 \times 10^{-2}$ | — | — | — | 1.4 |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $2.1 \times 10^{-2}$ | — | — | — | $4.6 \times 10^{-3}$ | — | — | — | $2.3 \times 10^{-2}$ |
| Antimony | $5.3 \times 10^{-2}$ | — | — | — | $1.4 \times 10^{-2}$ | — | — | — | $4.4 \times 10^{-2}$ |
| Arsenic | $9.6 \times 10^{-2}$ | — | — | — | $2.3 \times 10^{-2}$ | — | — | — | $8.5 \times 10^{-2}$ |
| Cadmium | $3.0 \times 10^{-2}$ | — | — | — | $6.5 \times 10^{-4}$ | — | — | — | $3.1 \times 10^{-2}$ |
| Cobalt | **1.0** | — | — | — | $5.9 \times 10^{-3}$ | — | — | — | $9.3 \times 10^{-1}$ |
| Copper | $1.8 \times 10^{-2}$ | — | — | — | $7.9 \times 10^{-4}$ | — | — | — | $1.9 \times 10^{-2}$ |
| Cyanide | $7.6 \times 10^{-3}$ | — | — | — | $4.7 \times 10^{-4}$ | — | — | — | $7.3 \times 10^{-3}$ |
| Lead[1] | 4.5 | — | — | — | 26.9 | — | — | — | 4.1 |
| Mercury | $3.0 \times 10^{-3}$ | — | — | — | $6.6 \times 10^{-5}$ | — | — | — | $2.9 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | — | — | — | $4.3 \times 10^{-6}$ | — | — | — | $1.2 \times 10^{-1}$ |
| Silver | $2.0 \times 10^{-3}$ | — | — | — | $1.3 \times 10^{-4}$ | — | — | — | $1.9 \times 10^{-3}$ |
| Thallium | **6.8** | — | — | — | $1.0 \times 10^{-1}$ | — | — | — | 6.7 |
| Uranium | $3.9 \times 10^{-2}$ | — | — | — | $3.8 \times 10^{-3}$ | — | — | — | $3.5 \times 10^{-2}$ |
| Zinc | 1.0 | — | — | — | $4.8 \times 10^{-2}$ | — | — | — | 1.0 |

**Table 4.6.3.3-1A: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 1) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $2.3 \times 10^{-2}$ | — | — | — | $4.9 \times 10^{-3}$ | — | — | — | $2.4 \times 10^{-2}$ |
| Antimony | $5.9 \times 10^{-2}$ | — | — | — | $1.7 \times 10^{-2}$ | — | — | — | $4.8 \times 10^{-2}$ |
| Arsenic | $1.1 \times 10^{-1}$ | — | — | — | $2.9 \times 10^{-2}$ | — | — | — | $9.9 \times 10^{-2}$ |
| Cadmium | $3.2 \times 10^{-2}$ | — | — | — | $8.1 \times 10^{-4}$ | — | — | — | $3.3 \times 10^{-2}$ |
| Cobalt | **1.1** | — | — | — | $7.2 \times 10^{-3}$ | — | — | — | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | — | — | — | $9.4 \times 10^{-4}$ | — | — | — | $2.2 \times 10^{-2}$ |
| Cyanide | $8.4 \times 10^{-3}$ | — | — | — | $5.9 \times 10^{-4}$ | — | — | — | $7.9 \times 10^{-3}$ |
| Lead[1] | 4.3 | — | — | — | 23.1 | — | — | — | 3.9 |
| Mercury | $3.2 \times 10^{-3}$ | — | — | — | $7.8 \times 10^{-5}$ | — | — | — | $3.2 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | — | — | — | $5.4 \times 10^{-6}$ | — | — | — | $1.1 \times 10^{-1}$ |
| Silver | $2.2 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-4}$ | — | — | — | $2.1 \times 10^{-3}$ |
| Thallium | **7.1** | — | — | — | $1.3 \times 10^{-1}$ | — | — | — | 7.0 |
| Uranium | $3.9 \times 10^{-2}$ | — | — | — | $4.7 \times 10^{-3}$ | — | — | — | $3.4 \times 10^{-2}$ |
| Zinc | **1.3** | — | — | — | $6.1 \times 10^{-2}$ | — | — | — | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.3-1B: Visitor/ Harvester Risk Characterization via Sum of All Pathways (Study Area 2)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-3}$ | $3.2 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| Antimony | $5.0 \times 10^{-2}$ | $2.2 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $6.2 \times 10^{-6}$ | $9.5 \times 10^{-6}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ |
| Arsenic | $8.2 \times 10^{-2}$ | $1.2 \times 10^{-4}$ | $3.3 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ |
| Cadmium | $1.0 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $7.1 \times 10^{-7}$ | $5.3 \times 10^{-7}$ | $5.1 \times 10^{-7}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ |
| Cobalt | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-4}$ | $4.1 \times 10^{-5}$ | $3.3 \times 10^{-5}$ | $3.1 \times 10^{-5}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Copper | $4.7 \times 10^{-4}$ | $8.7 \times 10^{-7}$ | $2.4 \times 10^{-7}$ | $1.9 \times 10^{-7}$ | $3.3 \times 10^{-5}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $5.0 \times 10^{-4}$ |
| Cyanide | $1.8 \times 10^{-3}$ | 0.0 | 0.0 | 0.0 | 0.0 | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ |
| Lead[1] | 19.4 | 122267.2 | 7939.3 | 7454.1 | 409.3 | 19.4 | 19.4 | 19.4 | 18.5 |
| Mercury | $2.5 \times 10^{-4}$ | $1.7 \times 10^{-7}$ | $4.2 \times 10^{-8}$ | $3.0 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ |
| Methylmercury | $3.8 \times 10^{-5}$ | 0.0 | $1.1 \times 10^{-9}$ | 0.0 | 0.0 | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ |
| Silver | $4.5 \times 10^{-4}$ | $5.0 \times 10^{-7}$ | $6.0 \times 10^{-7}$ | $5.5 \times 10^{-7}$ | $5.4 \times 10^{-7}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ |
| Thallium | $4.7 \times 10^{-1}$ | $4.6 \times 10^{-5}$ | $9.6 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ |
| Uranium | $1.6 \times 10^{-2}$ | $3.2 \times 10^{-7}$ | $2.8 \times 10^{-7}$ | $2.6 \times 10^{-7}$ | $2.6 \times 10^{-7}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ |
| Zinc | $5.8 \times 10^{-3}$ | $1.8 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $2.0 \times 10^{-4}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $4.1 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $4.2 \times 10^{-2}$ |
| Antimony | $1.1 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Arsenic | $2.0 \times 10^{-1}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $6.7 \times 10^{-4}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Cadmium | $5.9 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.1 \times 10^{-5}$ | $5.9 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $5.9 \times 10^{-2}$ |
| Cobalt | **1.9** | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $6.4 \times 10^{-4}$ | 1.9 | 1.8 | 1.9 | 1.8 |
| Copper | $3.4 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $9.3 \times 10^{-4}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Cyanide | $1.5 \times 10^{-2}$ | 0.0 | $8.1 \times 10^{-5}$ | 0.0 | $6.4 \times 10^{-7}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ |
| Lead[1] | 1.8 | 7.8 | 7.7 | 7.7 | 38.9 | 1.5 | 1.5 | 1.5 | 1.7 |
| Mercury | $5.5 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $5.5 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | 0.0 | $5.7 \times 10^{-6}$ | 0.0 | $5.2 \times 10^{-10}$ | $1.9 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Silver | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $3.9 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.8 \times 10^{-3}$ |
| Thallium | **1.2** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $1.2 \times 10^{1}$ | **1.3** $\times 10^{1}$ | $1.2 \times 10^{1}$ | $1.2 \times 10^{1}$ |
| Uranium | $7.8 \times 10^{-2}$ | $3.9 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $1.6 \times 10^{-6}$ | $7.5 \times 10^{-2}$ | $7.8 \times 10^{-2}$ | $7.8 \times 10^{-2}$ | $7.8 \times 10^{-2}$ |
| Zinc | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |

**Table 4.6.3.3-1B: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 2) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $3.5 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $9.0 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $3.6 \times 10^{-2}$ |
| Antimony | $8.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $2.9 \times 10^{-4}$ | $9.0 \times 10^{-2}$ | $9.1 \times 10^{-2}$ | $9.1 \times 10^{-2}$ | $8.2 \times 10^{-2}$ |
| Arsenic | $1.5 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $4.7 \times 10^{-4}$ | $1.6 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.5 \times 10^{-1}$ |
| Cadmium | $4.5 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.5 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.5 \times 10^{-2}$ |
| Cobalt | **1.4** | $2.7 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | 1.4 | 1.3 | 1.5 | 1.3 |
| Copper | $2.5 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $7.4 \times 10^{-4}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Cyanide | $1.5 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ |
| Lead[1] | 2.4 | 10.5 | 10.3 | 10.3 | 51.3 | 2.0 | 2.0 | 2.0 | 2.3 |
| Mercury | $7.1 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.4 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.2 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | 0.0 | $1.9 \times 10^{-5}$ | 0.0 | $3.8 \times 10^{-10}$ | $6.3 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ |
| Silver | $3.7 \times 10^{-3}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $3.8 \times 10^{-3}$ | $3.9 \times 10^{-3}$ | $3.9 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |
| Thallium | **$2.5 \times 10^{1}$** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $2.4 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ |
| Uranium | $6.2 \times 10^{-2}$ | $2.9 \times 10^{-5}$ | $2.9 \times 10^{-5}$ | $2.9 \times 10^{-5}$ | $1.1 \times 10^{-6}$ | $6.0 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ |
| Zinc | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $2.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $5.8 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Antimony | $5.3 \times 10^{-2}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $2.0 \times 10^{-4}$ | $5.9 \times 10^{-2}$ | $5.9 \times 10^{-2}$ | $5.9 \times 10^{-2}$ | $5.3 \times 10^{-2}$ |
| Arsenic | $9.6 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.4 \times 10^{-4}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $9.6 \times 10^{-2}$ |
| Cadmium | $3.0 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.0 \times 10^{-2}$ |
| Cobalt | **1.0** | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.2 \times 10^{-4}$ | $9.8 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | 1.0 | $9.3 \times 10^{-1}$ |
| Copper | $1.8 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.0 \times 10^{-4}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Cyanide | $7.6 \times 10^{-3}$ | 0.0 | $4.6 \times 10^{-5}$ | 0.0 | $3.6 \times 10^{-7}$ | $7.3 \times 10^{-3}$ | $7.8 \times 10^{-3}$ | $7.6 \times 10^{-3}$ | $7.6 \times 10^{-3}$ |
| Lead[1] | 4.5 | 18.2 | 18.0 | 18.0 | 97.8 | 3.8 | 3.7 | 3.7 | 4.3 |
| Mercury | $3.0 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | 0.0 | $3.3 \times 10^{-6}$ | 0.0 | $3.0 \times 10^{-10}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Silver | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $7.6 \times 10^{-6}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.0 \times 10^{-3}$ |
| Thallium | **6.8** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | 6.4 | **7.5** | 6.8 | 6.8 |
| Uranium | $3.9 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $7.6 \times 10^{-7}$ | $3.7 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ |
| Zinc | 1.0 | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.3 \times 10^{-2}$ | **1.2** | **1.3** | **1.3** | 1.0 |

**Table 4.6.3.3-1B: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 2) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $2.3 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $6.0 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $2.3 \times 10^{-2}$ |
| Antimony | $5.9 \times 10^{-2}$ | $7.9 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $2.1 \times 10^{-4}$ | $6.6 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.0 \times 10^{-2}$ |
| Arsenic | $1.1 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $4.0 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.3 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Cobalt | **1.1** | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | 1.1 | 1.0 | 1.2 | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $5.9 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ |
| Cyanide | $8.4 \times 10^{-3}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $8.0 \times 10^{-3}$ | $8.6 \times 10^{-3}$ | $8.4 \times 10^{-3}$ | $8.4 \times 10^{-3}$ |
| Lead[1] | 4.3 | 15.8 | 15.6 | 15.6 | 96.1 | 3.5 | 3.4 | 3.4 | 4.1 |
| Mercury | $3.2 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $3.6 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.2 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | 0.0 | $3.1 \times 10^{-6}$ | 0.0 | $3.8 \times 10^{-10}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Silver | $2.2 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $9.4 \times 10^{-6}$ | $2.3 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.2 \times 10^{-3}$ |
| Thallium | **7.1** | $1.4 \times 10^{-2}$ | $4.8 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 6.8 | **8.0** | 7.1 | 7.1 |
| Uranium | $3.9 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $7.8 \times 10^{-7}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ |
| Zinc | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.3-1C: Visitor/ Harvester Risk Characterization via Sum of All Pathways (Study Area 3)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Aluminum | $2.6 \times 10^{-2}$ | $3.5 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| Antimony | $2.1 \times 10^{-1}$ | $2.4 \times 10^{-5}$ | $1.6 \times 10^{-5}$ | $6.3 \times 10^{-6}$ | $9.5 \times 10^{-6}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $5.0 \times 10^{-2}$ |
| Arsenic | $3.4 \times 10^{-1}$ | $1.4 \times 10^{-4}$ | $3.2 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $2.5 \times 10^{-5}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ |
| Cadmium | $4.3 \times 10^{-3}$ | $2.4 \times 10^{-6}$ | $6.9 \times 10^{-7}$ | $5.3 \times 10^{-7}$ | $5.1 \times 10^{-7}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ |
| Cobalt | $9.9 \times 10^{-2}$ | $2.5 \times 10^{-4}$ | $3.9 \times 10^{-5}$ | $3.3 \times 10^{-5}$ | $3.1 \times 10^{-5}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Copper | $1.9 \times 10^{-3}$ | $9.6 \times 10^{-7}$ | $2.3 \times 10^{-7}$ | $1.9 \times 10^{-7}$ | $3.3 \times 10^{-5}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $5.0 \times 10^{-4}$ |
| Cyanide | $7.4 \times 10^{-3}$ | 0.0 | 0.0 | 0.0 | 0.0 | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ |
| Lead[1] | 4.6 | 122267.2 | 7939.3 | 7454.1 | 409.3 | 19.4 | 19.4 | 19.4 | 18.5 |
| Mercury | $1.1 \times 10^{-3}$ | $1.9 \times 10^{-7}$ | $4.1 \times 10^{-8}$ | $3.0 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ |
| Methylmercury | $1.6 \times 10^{-4}$ | 0.0 | $1.1 \times 10^{-9}$ | 0.0 | 0.0 | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ | $3.8 \times 10^{-5}$ |
| Silver | $1.9 \times 10^{-3}$ | $5.4 \times 10^{-7}$ | $6.0 \times 10^{-7}$ | $5.5 \times 10^{-7}$ | $5.4 \times 10^{-7}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ |
| Thallium | **2.0** | $5.0 \times 10^{-5}$ | $9.5 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ |
| Uranium | $6.9 \times 10^{-2}$ | $3.5 \times 10^{-7}$ | $2.8 \times 10^{-7}$ | $2.6 \times 10^{-7}$ | $2.6 \times 10^{-7}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ |
| Zinc | $2.4 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $2.0 \times 10^{-4}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| **TODDLER** | | | | | | | | | |
| Aluminum | $6.0 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $4.2 \times 10^{-2}$ |
| Antimony | $2.7 \times 10^{-1}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.9 \times 10^{-4}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Arsenic | $4.8 \times 10^{-1}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $6.7 \times 10^{-4}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Cadmium | $6.3 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.1 \times 10^{-5}$ | $5.9 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $5.9 \times 10^{-2}$ |
| Cobalt | **2.0** | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $6.4 \times 10^{-4}$ | 1.9 | 1.8 | 1.9 | 1.8 |
| Copper | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $9.3 \times 10^{-4}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Cyanide | $2.0 \times 10^{-2}$ | 0.0 | $8.1 \times 10^{-5}$ | 0.0 | $6.4 \times 10^{-7}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ |
| Lead[1] | 1.3 | 7.8 | 7.7 | 7.7 | 38.9 | 1.5 | 1.5 | 1.5 | 1.7 |
| Mercury | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $5.5 \times 10^{-3}$ |
| Methylmercury | $2.0 \times 10^{-1}$ | 0.0 | $5.7 \times 10^{-6}$ | 0.0 | $5.2 \times 10^{-10}$ | $1.9 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ |
| Silver | $5.2 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $1.4 \times 10^{-5}$ | $3.9 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $4.1 \times 10^{-3}$ | $3.8 \times 10^{-3}$ |
| Thallium | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $1.2 \times 10^{1}$ | $1.3 \times 10^{1}$ | $1.2 \times 10^{1}$ | $1.2 \times 10^{1}$ |
| Uranium | $1.3 \times 10^{-1}$ | $3.9 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $3.9 \times 10^{-5}$ | $1.6 \times 10^{-6}$ | $7.5 \times 10^{-2}$ | $7.8 \times 10^{-2}$ | $7.8 \times 10^{-2}$ | $7.8 \times 10^{-2}$ |
| Zinc | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |

**Table 4.6.3.3-1C: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 3) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **CHILD** | | | | | | | | | |
| Aluminum | $4.8 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $9.0 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $3.6 \times 10^{-2}$ |
| Antimony | $1.9 \times 10^{-1}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $2.9 \times 10^{-4}$ | $9.0 \times 10^{-2}$ | $9.1 \times 10^{-2}$ | $9.1 \times 10^{-2}$ | $8.2 \times 10^{-2}$ |
| Arsenic | $3.1 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $4.7 \times 10^{-4}$ | $1.6 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.5 \times 10^{-1}$ |
| Cadmium | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.5 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.5 \times 10^{-2}$ |
| Cobalt | **1.5** | $2.7 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | 1.4 | 1.3 | 1.5 | 1.3 |
| Copper | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $7.4 \times 10^{-4}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Cyanide | $1.9 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ |
| Lead[1] | 2.0 | 10.5 | 10.3 | 10.3 | 51.3 | 2.0 | 2.0 | 2.0 | 2.3 |
| Mercury | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.4 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.2 \times 10^{-3}$ |
| Methylmercury | $6.6 \times 10^{-1}$ | 0.0 | $1.9 \times 10^{-5}$ | 0.0 | $3.8 \times 10^{-10}$ | $6.3 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ |
| Silver | $4.6 \times 10^{-3}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $3.8 \times 10^{-3}$ | $3.9 \times 10^{-3}$ | $3.9 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |
| Thallium | **$2.6 \times 10^{1}$** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $2.4 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ |
| Uranium | $9.7 \times 10^{-2}$ | $2.9 \times 10^{-5}$ | $2.9 \times 10^{-5}$ | $2.9 \times 10^{-5}$ | $1.1 \times 10^{-6}$ | $6.0 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ |
| Zinc | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| **TEEN** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.0 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $5.8 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Antimony | $1.3 \times 10^{-1}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $2.0 \times 10^{-4}$ | $5.9 \times 10^{-2}$ | $5.9 \times 10^{-2}$ | $5.9 \times 10^{-2}$ | $5.3 \times 10^{-2}$ |
| Arsenic | $2.1 \times 10^{-1}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $3.4 \times 10^{-4}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $9.6 \times 10^{-2}$ |
| Cadmium | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.0 \times 10^{-2}$ |
| Cobalt | **1.0** | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.2 \times 10^{-4}$ | $9.8 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | 1.0 | $9.3 \times 10^{-1}$ |
| Copper | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.0 \times 10^{-4}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |
| Cyanide | $1.0 \times 10^{-2}$ | 0.0 | $4.6 \times 10^{-5}$ | 0.0 | $3.6 \times 10^{-7}$ | $7.3 \times 10^{-3}$ | $7.8 \times 10^{-3}$ | $7.6 \times 10^{-3}$ | $7.6 \times 10^{-3}$ |
| Lead[1] | 3.7 | 18.2 | 18.0 | 18.0 | 97.8 | 3.8 | 3.7 | 3.7 | 4.3 |
| Mercury | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| Methylmercury | $1.2 \times 10^{-1}$ | 0.0 | $3.3 \times 10^{-6}$ | 0.0 | $3.0 \times 10^{-10}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Silver | $2.6 \times 10^{-3}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $7.6 \times 10^{-6}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.0 \times 10^{-3}$ |
| Thallium | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | 6.4 | 7.5 | 6.8 | 6.8 |
| Uranium | $6.4 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $7.6 \times 10^{-7}$ | $3.7 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ |
| Zinc | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.3 \times 10^{-2}$ | **1.2** | **1.3** | **1.3** | 1.0 |

**Table 4.6.3.3-1C: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 3) (continued)**

| Contaminant of Concern | Hazard Quotient/ Margin of Exposure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **ADULT** | — | — | — | — | — | — | — | — | — |
| Aluminum | $3.4 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $6.0 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $2.3 \times 10^{-2}$ |
| Antimony | $1.5 \times 10^{-1}$ | $7.9 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $2.1 \times 10^{-4}$ | $6.6 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.0 \times 10^{-2}$ |
| Arsenic | $2.6 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $4.0 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Cadmium | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.3 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Cobalt | **1.2** | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | 1.1 | 1.0 | 1.2 | 1.1 |
| Copper | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $5.9 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ |
| Cyanide | $1.2 \times 10^{-2}$ | 0.0 | $6.0 \times 10^{-5}$ | 0.0 | $4.7 \times 10^{-7}$ | $8.0 \times 10^{-3}$ | $8.6 \times 10^{-3}$ | $8.4 \times 10^{-3}$ | $8.4 \times 10^{-3}$ |
| Lead[1] | 3.4 | 15.8 | 15.6 | 15.6 | 96.1 | 3.5 | 3.4 | 3.4 | 4.1 |
| Mercury | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $3.6 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.2 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-1}$ | 0.0 | $3.1 \times 10^{-6}$ | 0.0 | $3.8 \times 10^{-10}$ | $1.0 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ |
| Silver | $3.0 \times 10^{-3}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $9.4 \times 10^{-6}$ | $2.3 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.2 \times 10^{-3}$ |
| Thallium | **8.0** | $1.4 \times 10^{-2}$ | $4.8 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 6.8 | 8.0 | 7.1 | 7.1 |
| Uranium | $6.9 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $2.0 \times 10^{-5}$ | $7.8 \times 10^{-7}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ |
| Zinc | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| 1 | Lead risk characterized using a margin of exposure. MOE calculated using the developmental endpoint for infants, toddler, and children of $5.0 \times 10^{-4}$ mg/kg/da and nephrotoxicity or teens and adults of $6.3 \times 10^{-4}$ mg/kg/day. |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 or margin of exposure is less than 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact). |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of HQ=1 and is larger than the risk estimate for the Base Case Assessment Scenario. Alternatively for lead, risk for the Project Assessment Scenario via the sum of all operable pathways, is less than an MOE of 1 and is less than the risk estimate for the Base Case Assessment Scenario |

**Table 4.6.3.3-1C: Visitor/ Harvester Hazard Quotient via Sum of All Pathways (Study Area 3) (continued)**

**Table 4.6.3.3-2: Visitor/Harvester Incremental Lifetime Cancer Risk via Sum of All Pathways**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | | Lifetime Average Daily Dose $(mg/kg/d)^{-1}$ | | |
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| Off Set Scenario 1 | | | | | | | | | |
| Arsenic | $6.3 \times \mathbf{10^{-5}}$ | — | — | $6.3 \times \mathbf{10^{-5}}$ | $2.9 \times 10^{-6}$ | $6.5 \times \mathbf{10^{-5}}$ | $6.3 \times \mathbf{10^{-5}}$ | $2.9 \times 10^{-6}$ | $6.5 \times \mathbf{10^{-5}}$ |
| Off Set Scenario 2 | — | — | — | — | — | — | — | — | — |
| Arsenic | $6.3 \times \mathbf{10^{-5}}$ | — | — | $6.3 \times \mathbf{10^{-5}}$ | $2.9 \times 10^{-6}$ | $6.5 \times \mathbf{10^{-5}}$ | $6.3 \times \mathbf{10^{-5}}$ | $2.9 \times 10^{-6}$ | $6.5 \times \mathbf{10^{-5}}$ |
| Off Set Scenario 3 | — | — | — | — | — | — | — | — | — |
| Arsenic | $6.3 \times \mathbf{10^{-5}}$ | $3.4 \times 10^{-5}$ | $7.0 \times \mathbf{10^{-5}}$ | $6.3 \times \mathbf{10^{-5}}$ | $4.5 \times 10^{-6}$ | $1.4 \times \mathbf{10^{-4}}$ | $6.3 \times \mathbf{10^{-5}}$ | $2.9 \times 10^{-6}$ | $6.5 \times \mathbf{10^{-5}}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of $1 \times 10^{-6}$ for total exposure to carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, dermal contact, and ingestion of country foods) |
| **BOLD AND SHADED** | Residual adverse effect identified. A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of $1 \times 10^{-6}$ and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 4.6.3.3-3A: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.1)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $2.2 \times 10^{-2}$ | — | — | — | $1.1 \times 10^{-2}$ | — | — | — | $1.1 \times 10^{-2}$ |
| Respiratory | $2.4 \times 10^{-2}$ | — | — | — | $9.3 \times 10^{-3}$ | — | — | — | $1.6 \times 10^{-2}$ |
| Developmental | $5.8 \times 10^{-3}$ | — | — | — | $6.3 \times 10^{-3}$ | — | — | — | $9.1 \times 10^{-3}$ |
| Digestive Track | $4.7 \times 10^{-4}$ | — | — | — | $4.2 \times 10^{-4}$ | — | — | — | $6.1 \times 10^{-4}$ |
| Renal | $1.0 \times 10^{-3}$ | — | — | — | $9.2 \times 10^{-4}$ | — | — | — | $1.2 \times 10^{-3}$ |
| Vascular | $1.3 \times 10^{-1}$ | — | — | — | $7.5 \times 10^{-2}$ | — | — | — | $8.3 \times 10^{-2}$ |
| Integumentary | $4.7 \times 10^{-1}$ | — | — | — | $2.1 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{-1}$ |
| Nephrotoxicity | $2.5 \times 10^{-4}$ | — | — | — | $5.9 \times 10^{-5}$ | — | — | — | $6.9 \times 10^{-5}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.2 \times 10^{-1}$ | — | — | — | $1.7 \times 10^{-2}$ | — | — | — | $3.2 \times 10^{-1}$ |
| Respiratory | **1.9** | — | — | — | $1.3 \times 10^{-2}$ | — | — | — | 1.8 |
| Developmental | **1.8** | — | — | — | $8.6 \times 10^{-2}$ | — | — | — | 1.9 |
| Digestive Track | $3.4 \times 10^{-2}$ | — | — | — | $1.5 \times 10^{-3}$ | — | — | — | $3.5 \times 10^{-2}$ |
| Renal | $5.9 \times 10^{-2}$ | — | — | — | $1.3 \times 10^{-3}$ | — | — | — | $6.0 \times 10^{-2}$ |
| Vascular | $3.2 \times 10^{-1}$ | — | — | — | $8.0 \times 10^{-2}$ | — | — | — | $2.8 \times 10^{-1}$ |
| Integumentary | **1.2** $\times 10^{1}$ | — | — | — | $2.2 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{1}$ |
| Nephrotoxicity | $5.5 \times 10^{-3}$ | — | — | — | $1.3 \times 10^{-4}$ | — | — | — | $5.4 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $7.6 \times 10^{-1}$ | — | — | — | $1.2 \times 10^{-2}$ | — | — | — | $7.6 \times 10^{-1}$ |
| Respiratory | **1.4** | — | — | — | $8.3 \times 10^{-3}$ | — | — | — | 1.3 |
| Developmental | **1.3** | — | — | — | $6.3 \times 10^{-2}$ | — | — | — | 1.4 |
| Digestive Track | $2.5 \times 10^{-2}$ | — | — | — | $1.2 \times 10^{-3}$ | — | — | — | $2.6 \times 10^{-2}$ |
| Renal | $4.5 \times 10^{-2}$ | — | — | — | $9.2 \times 10^{-4}$ | — | — | — | $4.6 \times 10^{-2}$ |
| Vascular | $2.4 \times 10^{-1}$ | — | — | — | $5.4 \times 10^{-2}$ | — | — | — | $2.1 \times 10^{-1}$ |
| Integumentary | **2.5** $\times 10^{1}$ | — | — | — | $1.5 \times 10^{-1}$ | — | — | — | $2.5 \times 10^{1}$ |
| Nephrotoxicity | $7.1 \times 10^{-3}$ | — | — | — | $9.2 \times 10^{-5}$ | — | — | — | $7.1 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $1.8 \times 10^{-1}$ | — | — | — | $8.4 \times 10^{-3}$ | — | — | — | $1.7 \times 10^{-1}$ |
| Respiratory | **1.0** | — | — | — | $5.9 \times 10^{-3}$ | — | — | — | $9.3 \times 10^{-1}$ |
| Developmental | 1.0 | — | — | — | $4.8 \times 10^{-2}$ | — | — | — | 1.0 |
| Digestive Track | $1.8 \times 10^{-2}$ | — | — | — | $7.9 \times 10^{-4}$ | — | — | — | $1.9 \times 10^{-2}$ |

**Table 4.6.3.3-3A: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.1) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.0 \times 10^{-2}$ | — | — | — | $6.5 \times 10^{-4}$ | — | — | — | $3.1 \times 10^{-2}$ |
| Vascular | $1.6 \times 10^{-1}$ | — | — | — | $3.8 \times 10^{-2}$ | — | — | — | $1.4 \times 10^{-1}$ |
| Integumentary | **6.8** | — | — | — | $1.0 \times 10^{-1}$ | — | — | — | 6.7 |
| Nephrotoxicity | $3.0 \times 10^{-3}$ | — | — | — | $6.6 \times 10^{-5}$ | — | — | — | $2.9 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $1.7 \times 10^{-1}$ | — | — | — | $9.6 \times 10^{-3}$ | — | — | — | $1.7 \times 10^{-1}$ |
| Respiratory | **1.1** | — | — | — | $7.2 \times 10^{-3}$ | — | — | — | 1.1 |
| Developmental | **1.3** | — | — | — | $6.1 \times 10^{-2}$ | — | — | — | 1.3 |
| Digestive Track | $2.1 \times 10^{-2}$ | — | — | — | $9.4 \times 10^{-4}$ | — | — | — | $2.2 \times 10^{-2}$ |
| Renal | $3.2 \times 10^{-2}$ | — | — | — | $8.1 \times 10^{-4}$ | — | — | — | $3.3 \times 10^{-2}$ |
| Vascular | $1.8 \times 10^{-1}$ | — | — | — | $4.6 \times 10^{-2}$ | — | — | — | $1.5 \times 10^{-1}$ |
| Integumentary | **7.1** | — | — | — | $1.3 \times 10^{-1}$ | — | — | — | 7.0 |
| Nephrotoxicity | $3.2 \times 10^{-3}$ | — | — | — | $7.8 \times 10^{-5}$ | — | — | — | $3.2 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 4.6.3.3-3B: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.2)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $2.2 \times 10^{-2}$ | $3.2 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Respiratory | $2.4 \times 10^{-2}$ | $2.3 \times 10^{-4}$ | $4.1 \times 10^{-5}$ | $3.3 \times 10^{-5}$ | $3.1 \times 10^{-5}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Developmental | $5.8 \times 10^{-3}$ | $1.8 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $2.0 \times 10^{-4}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| Digestive Track | $4.7 \times 10^{-4}$ | $8.7 \times 10^{-7}$ | $2.4 \times 10^{-7}$ | $1.9 \times 10^{-7}$ | $3.3 \times 10^{-5}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $5.0 \times 10^{-4}$ |
| Renal | $1.0 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $7.1 \times 10^{-7}$ | $5.3 \times 10^{-7}$ | $5.1 \times 10^{-7}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ |
| Vascular | $1.3 \times 10^{-1}$ | $1.5 \times 10^{-4}$ | $4.9 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Integumentary | $4.7 \times 10^{-1}$ | $4.6 \times 10^{-5}$ | $9.7 \times 10^{-5}$ | $8.6 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ |
| Nephrotoxicity | $2.5 \times 10^{-4}$ | $1.7 \times 10^{-7}$ | $4.2 \times 10^{-8}$ | $3.0 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.2 \times 10^{-1}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $3.8 \times 10^{-1}$ | $4.0 \times 10^{-1}$ | $4.0 \times 10^{-1}$ | $3.2 \times 10^{-1}$ |
| Respiratory | **1.9** | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $6.4 \times 10^{-4}$ | 1.9 | 1.8 | 1.9 | 1.8 |
| Developmental | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |
| Digestive Track | $3.4 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $9.3 \times 10^{-4}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Renal | $5.9 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.1 \times 10^{-5}$ | $5.9 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $5.9 \times 10^{-2}$ |
| Vascular | $3.2 \times 10^{-1}$ | $4.2 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $3.5 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $3.2 \times 10^{-1}$ |
| Integumentary | **1.2** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $1.2 \times 10^{1}$ | **1.3** $\times 10^{1}$ | $1.2 \times 10^{1}$ | $1.2 \times 10^{1}$ |
| Nephrotoxicity | $5.5 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $5.5 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $7.6 \times 10^{-1}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $7.8 \times 10^{-1}$ | $8.2 \times 10^{-1}$ | $8.2 \times 10^{-1}$ | $7.6 \times 10^{-1}$ |
| Respiratory | **1.4** | $2.7 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | 1.4 | 1.3 | 1.5 | 1.3 |
| Developmental | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.5 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $7.4 \times 10^{-4}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Renal | $4.5 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.5 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.5 \times 10^{-2}$ |
| Vascular | $2.4 \times 10^{-1}$ | $3.1 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $7.6 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.4 \times 10^{-1}$ |
| Integumentary | **2.5** $\times 10^{1}$ | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $2.4 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ |
| Nephrotoxicity | $7.1 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.4 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.2 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $1.8 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.2 \times 10^{-4}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $1.8 \times 10^{-1}$ |
| Respiratory | **1.0** | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.2 \times 10^{-4}$ | $9.8 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | 1.0 | $9.3 \times 10^{-1}$ |
| Developmental | 1.0 | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.3 \times 10^{-2}$ | **1.2** | **1.3** | **1.3** | 1.0 |
| Digestive Track | $1.8 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.0 \times 10^{-4}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |

**Table 4.6.3.3-3B: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.2) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.0 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.0 \times 10^{-2}$ |
| Vascular | $1.6 \times 10^{-1}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $5.4 \times 10^{-4}$ | $1.7 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $1.6 \times 10^{-1}$ |
| Integumentary | **6.8** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | 6.4 | **7.5** | 6.8 | 6.8 |
| Nephrotoxicity | $3.0 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $1.7 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $1.7 \times 10^{-1}$ |
| Respiratory | **1.1** | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | 1.1 | 1.0 | 1.2 | 1.1 |
| Developmental | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $5.9 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ |
| Renal | $3.2 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.3 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Vascular | $1.8 \times 10^{-1}$ | $2.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.8 \times 10^{-1}$ |
| Integumentary | **7.1** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 6.8 | **8.0** | 7.1 | 7.1 |
| Nephrotoxicity | $3.2 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $3.6 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.2 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 4.6.3.3-3C: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.3)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| **INFANT** | | | | | | | | | |
| Neurological | $9.4 \times 10^{-2}$ | $3.5 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Respiratory | $9.9 \times 10^{-2}$ | $2.5 \times 10^{-4}$ | $3.9 \times 10^{-5}$ | $3.3 \times 10^{-5}$ | $3.1 \times 10^{-5}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Developmental | $2.4 \times 10^{-2}$ | $2.0 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.2 \times 10^{-5}$ | $2.0 \times 10^{-4}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| Digestive Track | $1.9 \times 10^{-3}$ | $9.6 \times 10^{-7}$ | $2.3 \times 10^{-7}$ | $1.9 \times 10^{-7}$ | $3.3 \times 10^{-5}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $5.0 \times 10^{-4}$ |
| Renal | $4.3 \times 10^{-3}$ | $2.4 \times 10^{-6}$ | $6.9 \times 10^{-7}$ | $5.3 \times 10^{-7}$ | $5.1 \times 10^{-7}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ |
| Vascular | $5.6 \times 10^{-1}$ | $1.6 \times 10^{-4}$ | $4.8 \times 10^{-5}$ | $3.2 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Integumentary | **2.0** | $5.0 \times 10^{-5}$ | $9.6 \times 10^{-5}$ | $8.6 \times 10^{-5}$ | $8.5 \times 10^{-5}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ |
| Nephrotoxicity | $1.1 \times 10^{-3}$ | $1.9 \times 10^{-7}$ | $4.1 \times 10^{-8}$ | $3.0 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ |
| **TODDLER** | | | | | | | | | |
| Neurological | $3.9 \times 10^{-1}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $3.8 \times 10^{-1}$ | $4.0 \times 10^{-1}$ | $4.0 \times 10^{-1}$ | $3.2 \times 10^{-1}$ |
| Respiratory | **2.0** | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $6.4 \times 10^{-4}$ | 1.9 | 1.8 | 1.9 | 1.8 |
| Developmental | **1.8** | $5.3 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $5.4 \times 10^{-1}$ | $2.4 \times 10^{-2}$ | **2.2** | **2.2** | **2.2** | 1.8 |
| Digestive Track | $3.6 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $9.3 \times 10^{-4}$ | $3.4 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ |
| Renal | $6.3 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $8.1 \times 10^{-5}$ | $5.9 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $5.9 \times 10^{-2}$ |
| Vascular | $7.6 \times 10^{-1}$ | $4.2 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $3.5 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $3.2 \times 10^{-1}$ |
| Integumentary | **1.4** $\times 10^{1}$ | $1.9 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $1.2 \times 10^{1}$ | $1.3 \times 10^{1}$ | $1.2 \times 10^{1}$ | $1.2 \times 10^{1}$ |
| Nephrotoxicity | $6.3 \times 10^{-3}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-5}$ | $6.1 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $5.5 \times 10^{-3}$ |
| **CHILD** | | | | | | | | | |
| Neurological | $8.1 \times 10^{-1}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $7.8 \times 10^{-1}$ | $8.2 \times 10^{-1}$ | $8.2 \times 10^{-1}$ | $7.6 \times 10^{-1}$ |
| Respiratory | **1.5** | $2.7 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $4.4 \times 10^{-4}$ | 1.4 | 1.3 | 1.5 | 1.3 |
| Developmental | **1.3** | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.6 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $7.4 \times 10^{-4}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ |
| Renal | $4.7 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $5.9 \times 10^{-5}$ | $4.5 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.5 \times 10^{-2}$ |
| Vascular | $5.2 \times 10^{-1}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $7.6 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.4 \times 10^{-1}$ |
| Integumentary | **2.6** $\times 10^{1}$ | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $2.4 \times 10^{1}$ | $2.6 \times 10^{1}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ |
| Nephrotoxicity | $7.7 \times 10^{-3}$ | $6.2 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $6.3 \times 10^{-4}$ | $1.0 \times 10^{-5}$ | $7.4 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $7.2 \times 10^{-3}$ |
| **TEEN** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.2 \times 10^{-4}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $1.8 \times 10^{-1}$ |
| Respiratory | **1.0** | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $3.2 \times 10^{-4}$ | $9.8 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | 1.0 | $9.3 \times 10^{-1}$ |
| Developmental | **1.0** | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.3 \times 10^{-2}$ | **1.2** | **1.3** | **1.3** | 1.0 |
| Digestive Track | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $5.0 \times 10^{-4}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |

**Table 4.6.3.3-3C: Additive Chemical Interactions for a Visitor/Harvester via Sum of All Exposure Pathways (Study Area No.3) (continued)**

| Contaminant of Concern | Hazard Quotient | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | | | | Project Case | | | |
| | | Site Preparation and Construction | Operations | Closure | Post-Closure | Site Preparation and Construction | Operations | Closure | Post-Closure |
| Renal | $3.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $4.4 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.0 \times 10^{-2}$ |
| Vascular | $3.5 \times 10^{-1}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $5.4 \times 10^{-4}$ | $1.7 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $1.6 \times 10^{-1}$ |
| Integumentary | **7.5** | $1.1 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | 6.4 | 7.5 | 6.8 | 6.8 |
| Nephrotoxicity | $3.3 \times 10^{-3}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $7.2 \times 10^{-6}$ | $3.3 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.0 \times 10^{-3}$ |
| **ADULT** | | | | | | | | | |
| Neurological | $2.1 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $1.7 \times 10^{-1}$ |
| Respiratory | **1.2** | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | 1.1 | 1.0 | 1.2 | 1.1 |
| Developmental | **1.3** | $3.8 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $3.9 \times 10^{-1}$ | $1.7 \times 10^{-2}$ | **1.6** | **1.6** | **1.6** | 1.3 |
| Digestive Track | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $5.9 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ |
| Renal | $3.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $5.3 \times 10^{-5}$ | $3.3 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.4 \times 10^{-2}$ | $3.2 \times 10^{-2}$ |
| Vascular | $4.2 \times 10^{-1}$ | $2.5 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $6.1 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.8 \times 10^{-1}$ |
| Integumentary | **8.0** | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | 6.8 | 8.0 | 7.1 | 7.1 |
| Nephrotoxicity | $3.7 \times 10^{-3}$ | $5.1 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $5.2 \times 10^{-4}$ | $8.2 \times 10^{-6}$ | $3.6 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.2 \times 10^{-3}$ |

| NOTES: | |
|---|---|
| Units | Unitless fraction |
| **BOLD AND SHADED** | Calculated hazard quotient exceeds Health Canada risk benchmark of 1 for total exposure to non-carcinogenic chemicals via all pathways (inhalation, incidental ingestion, ingestion as drinking water, and dermal contact) |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

## 4.7 Cumulative Effects

Residual adverse effects for human health were identified for both the resident and visitor/harvester receptors for thallium (non-cancer risk), zinc (non-cancer risk), and arsenic (cancer risk). These residual adverse effects were driven by the country foods pathway, and largely a result the conservative uptake factors used for evaluating the risks for the Base Case conditions (TMI_926-HE(2)-06). The incremental risks associated with the Project relate to the exposure of country foods to the media present within the operations area (e.g., TSF supernatant water and waste rock during the active phases of the Project). The country foods affected by these Project media are restricted to the local study area and are unlikely to be exposed to contaminants from other Projects. In the case of human consumption, it is reasonable that humans could consume country foods from other areas within the larger region. However, this consumption would offset the consumption of food potentially affected by the Goliath Gold Project, thereby reducing the potential risk associated with the Goliath Gold Project. Therefore, cumulative effects associated with the identified residual adverse effects of the Project on human health (i.e., thallium, zinc, and arsenic) via the country foods pathway are not likely to occur.

## 4.8 Determination of Significance

As there were residual adverse effects (effects that remain after the implementation of mitigation and risk management measures), a determination of magnitude was done in accordance with Section 13.1 of the EIS Guidelines (CEAA, 2013). The EIS Guidelines go on to describe the elements that should be considered when determining environmental significance under CEAA 2012. These include the following:

- Magnitude;
- Geographic extent;
- Timing and duration;
- Frequency; and
- Reversibility.

In assigning levels of magnitude, the thresholds set out in Table 4.8-1.

**Table 4.8-1: Definitions for Levels of Magnitude**

| | I | II | III |
|---|---|---|---|
| Non-Cancer Risk | Base Case HQ and Project Case HQ are within 1 order of magnitude | Project Case HQ is between 1 and 2 orders of magnitude higher than Base Case HQ | Project Case HQ is more than 2 orders of magnitude higher than Base Case HQ |
| Cancer Risk | Base Case ILCR and Project Case ILCR are within 1 order of magnitude | Project Case ILCR is between 1 and 2 orders of magnitude higher than Base Case ILCR | Project Case ILCR is more than 2 orders of magnitude higher than Base Case ILCR |
| Lead Risk | Base Case MOE and Project Case MOE are | Project Case MOE is between 1 and 2 orders | Project Case MOE is more than 2 orders of |

| | within 1 order of magnitude | of magnitude less than Base Case MOE | magnitude lower than Base Case MOE |
|---|---|---|---|
| NOTES: | | | |
| A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. | | | |

Based on the results presented in Section 4.6, and the levels of magnitude defined in Table 4.8-1, levels of magnitude were assigned for the residual effects in Study Area No. 1 (Table 4.8-2), Study Area No. 2 (Table 4.8-3), and Study Area No. 3 (Table 4.8-4).

**Table 4.8-2: Levels of Magnitude for Residual Adverse Effects in Study Area No. 1**

| VC | Indicator | Site Preparation & Construction | Operations | Closure | Post-Closure |
|---|---|---|---|---|---|
| **Non-Cancer** | | | | | |
| Thallium | Worker | — (1) | — (1) | — (1) | — (2) |
| | Resident | — (2) | — (2) | — (2) | Level I |
| | Visitor | — (2) | — (2) | — (2) | — (3) |
| Zinc | Worker | — (1) | — (1) | — (1) | — (2) |
| | Resident | — (2) | — (2) | — (2) | — (3) |
| | Visitor | — (2) | — (2) | — (2) | — (3) |
| **Cancer** | | | | | |
| Arsenic | Worker | — (1)(4) | | | |
| | Resident | — (3)(4) | | | |
| | Visitor | Level I (4) | | | |

| NOTES: | |
|---|---|
| (1) | Residual effects been eliminated through the implementation of a health and safety plan for the Project workers. |
| (2) | There are residual effects as this exposure pathway/receptor scenario is not operable. |
| (3) | The predicted risk for this operable exposure pathway/receptor scenario did not meet the requirement for residual effects. |
| (4) | Cancer risk are based on lifetime exposures and not individual Project phases. |

**Table 4.8-3: Levels of Magnitude for Residual Adverse Effects in Study Area No. 2**

| VC | Indicator | Site Preparation & Construction | Operations | Closure | Post-Closure |
|---|---|---|---|---|---|
| **Non-Cancer** | | | | | |
| Thallium | Worker | — (1) | — (1) | — (1) | — (1) |
| | Resident | — (2) | Level I | — (2) | — (2) |
| | Visitor | — (2) | Level I | — (2) | — (2) |
| Zinc | Worker | Level I | Level I | Level I | — (2) |
| | Resident | Level I | Level I | Level I | — (2) |
| | Visitor | Level I | Level I | Level I | — (2) |
| **Cancer** | | | | | |
| Arsenic | Worker | — (1)(3) | | | |

| | | |
|---|---|---|
| | Resident | Level I [3] |
| | Visitor | Level I [3] |

| NOTES: | |
|---|---|
| (1) | There are residual effects as this exposure pathway/receptor scenario is not operable. |
| (2) | The predicted risk for this operable exposure pathway/receptor scenario did not meet the requirement for residual effects. |
| (3) | Cancer risk are based on lifetime exposures and not individual Project phases. |

**Table 4.8-4: Levels of Magnitude for Residual Adverse Effects in Study Area No. 3**

| VC | Indicator | Site Preparation & Construction | Operations | Closure | Post-Closure |
|---|---|---|---|---|---|
| **Non-Cancer** | | | | | |
| Thallium | Worker | — [1] | — [1] | — [1] | — [1] |
| | Resident | — [2] | Level I | — [2] | — [2] |
| | Visitor | — [2] | Level I | — [2] | — [2] |
| Zinc | Worker | Level I | Level I | Level I | — [2] |
| | Resident | Level I | Level I | Level I | — [2] |
| | Visitor | Level I | Level I | Level I | — [2] |
| **Cancer** | | | | | |
| Arsenic | Worker | — [1][3] | | | |
| | Resident | Level I [3] | | | |
| | Visitor | Level I [3] | | | |

| NOTES: | |
|---|---|
| (1) | There are residual effects as this exposure pathway/receptor scenario is not operable. |
| (2) | The predicted risk for this operable exposure pathway/receptor scenario did not meet the requirement for residual effects. |
| (3) | Cancer risk are based on lifetime exposures and not individual Project phases. |

As the residual effects identified in the above table were all classified as having magnitudes of Level I (see Table 4.6.4-1), there was no requirement to classify the other assessment measures. Effects of a Level I magnitude would not be significant.

## 4.9 Social Determinants of Health

Health risks resulting from chemical exposures were determined by completing a quantitative assessment using site-specific conditions, where available and generic assumptions. The human health risk assessment was focused on the potential health effects associated with the toxicological mode of action and bioavailability of chemicals in the environment, specifically the transfer of chemicals from environmental media into country foods. The human health risk assessment including country foods assessment indicated that with the appropriate mitigation measures in place for the protection of a Project Worker, adverse human health effects were unlikely as a result of the Project.

There are however, other factors critical to the assessment of human health, including social determinants of health. Health Canada has identified social determinants of health that affect the health of Canadians. Social determinants of health refer to a specific group of social and economic factors within the broader

determinants of health. These relate to an individual's place in society, such as income, education or employment. Experiences of discrimination or historical trauma are also important social determinants of health for certain groups such as Indigenous Peoples. These determinants have a stronger effect than behaviors such as diet, physical activity, and even tobacco and excessive alcohol use (Mikkonen and Raphael (2010)).

The social determinants of health were assessed within the body of the EIS (April 2018). Emphasis was placed on the effects of the Project on members of Indigenous communities and their ability to practice their current use of land and resources for traditional purposes. Treasury Metals has participated in a large number of engagement related activities and incorporated the meaningful information shared by members of the local Indigenous communities into the EIS. Traditional knowledge obtained from various Indigenous communities was incorporated into the assessment of baseline conditions with respect to the Project and given equal consideration and scientific merit as western knowledge. Traditional knowledge including information with respect to climate, air quality, geology, terrain and soil, hydrogeology, hydrology, aquatic resources, terrestrial resources, migratory birds, specific at risk and social, economic and cultural heritage. The information presented in the baseline section of the EIS (Section 5) was essential to the assessment of effects of the Project on Indigenous peoples. The assessment of effects of the Project on Indigenous peoples was performed by drawing conclusions from the effects of the Project on each biophysical discipline including terrain and soils, geology and geochemistry, noise, light, air quality, climate, surface water quality, surface water quantity, groundwater quality, groundwater quantity, wildlife and wildlife habitat, migratory birds, fish and fish habitat, wetlands and vegetation, land use, social factors, economic factor, human health, and heritage resources.

The information shared with Treasury Metals via engagement activities was also essential to the selection of valued components (VCs) to be used in the assessment of effects of the project. Many of the VCs selected for use in the effects assessment are directly linked to the social determinants of health. Table 4.7-1 presents the social determinants identified by Health Canada (Mikkonen and Raphael (2010)), indicates which VC was used to assess it in the EIS, and provides a summary of the residual effect identified as a result of the Project as it relates to the social determinant of health. Table 4.7-1 also provides the location in the EIS where traditional knowledge and effects of the Project with respect to each social determinant of health are discussed.

As stated in the revised EIS (April 2018), the Goliath Gold Project is not expected to contribute meaningfully to adverse effects on Indigenous Communities including their ability to continue to use land and resources for traditional purposes. The revised EIS (April 2018) determined that the few adverse effects that were identified, mainly were associated with loss of access or habitat. Full details of the assessment of these effects including the cumulative effects assessment and determination of significance are provided in the body of the EIS (April 2018).

**Table 4.5-1: Social Determinants of Health Matrix**

| Social Determinant of Health | Location of Baseline Data in the EIS | | Valued Component(s) used in the EIS | Assessment of Predicted Effects of the Environment | Predicted Effect | Residual Effects Identified |
|---|---|---|---|---|---|---|
| | General Population | Indigenous Communities | | | | |
| Income and social status | 5.12.3 (Economic Factors) | 5.13.2.3 (Indigenous Communities, Income and Work Force Status) | • Income levels<br>• Cost of living<br>• Real estate<br>• Government revenues | 6.18 (Economic Factors) | The Project will affect income levels in the region. | Site Preparation and Construction and Operations employment will Increase in labour income in the Project area.<br>Closure and Post Closure and the reduction in Project employees will cause a reduction in labour income in the Project area |
| Employment and working conditions | 5.12.3 (Economic Factors) | 5.13.2.3 (Indigenous Communities, Demographics- Income and Work Force Status) | • Economic development<br>• Existing businesses<br>• Labour force, labour participation and employment | 6.18 (Economic Factors) | The Project will affect labour income, change labour participation and change employment opportunities in the region. | Site Preparation and Construction and Operations will create a demand for workers and increase in employment and labour income in the Project area.<br>Closure and Post Closure will cause a reduction in Project area employment and labour income as Project employees are laid off. |
| Education and literacy | 5.12.2 (Social Factors) | 5.13.2.2 (Indigenous Communities, Demographics- Education) | • Education | 6.17 (Social Factors) | • Increased training opportunities<br>• Increased education enrollment | Increased training and education opportunities for unemployed and under-employed Residents and non-Resident workers. It is anticipated that any increase in training would be able to be accommodated within existing education and training facilities.<br>Potential increased demand on education services. It is anticipated that any increase in enrollments could be accommodated within existing education system. |
| Childhood experiences | 5.12.2 (Social Factors) | 5.13.2.1 and 5.13.2.4 (Indigenous Communities, Demographics- Population and crime and justice) | Not specifically assessed | | | |
| Physical environments | 5.12.2 (Social Factors) | 5.13.2 and 5.12.3 (Indigenous Communities, Demographics and Traditional Land and Resource Use) | • Infrastructure and services<br>• Housing and property values<br>• Public safety<br>• Transportation and traffic | 6.17 (Social Factors) | • Increased demand on various infrastructure and services<br>• Increased demand for temporary accommodations<br>• Increased demand for permanent accommodation<br>• Change in property values | • Potential for demand to limit supply or lead to price increases for temporary accommodations. It is anticipated that this effect will be noticeable during Site Preparation and Construction but is unlikely to exceed current capacity.<br>• Potential for increase in property values may be noticeable.<br>• Real and perceived effects of Project-related activities (e.g., traffic, blasting) could negatively affect the value of houses that are closest to the Project's Property Boundary.<br>• Increased demand for housing because of in-migration to the area may lead to an increase in real estate values. |
| Social supports and coping skills | 5.12.2 (Social Factors) | 5.13.2 (Indigenous Communities, Demographics) | • Infrastructure and services<br>• Public safety | 6.17 (Social Factors) | Increased demand on existing community housing, infrastructure and services due to in-migration of Project workers | Potential increased demand on existing community housing, infrastructure and services. A noticeable change may result but it is expected that the current infrastructure within the communities most likely to be affected (City of Dryden and Village of Wabigoon) would be able to accommodate increased population. Population levels may decline to pre-Project conditions during Closure and Post-Closure. |
| Healthy behaviours | 5.12.2 (Social Factors) | 5.13.2 | *Not specifically assessed* | | | |
| Access to health services | 5.12.2 (Social Factors) | 5.12.2 (Social Factors) | | 6.17 (Social Factors) | Increased demand on various infrastructure and services | Potential increased demand on infrastructure and services may be noticeable but are anticipated to be within the current capacity. |
| Biology and genetic endowment | 5.12.2 (Social Factors) | 5.12.2 (Social Factors) | *Not specifically assessed* | | | |

| Social Determinant of Health | Location of Baseline Data in the EIS | | Valued Component(s) used in the EIS | Assessment of Predicted Effects of the Environment | Predicted Effect | Residual Effects Identified |
|---|---|---|---|---|---|---|
| | General Population | Indigenous Communities | | | | |
| Gender | 5.12.2 (Social Factors) | 5.13.2.1 (Indigenous Communities, Demographics-Population) | *Not specifically assessed* | | | |
| Culture | 5.12.4 (Heritage Resources) | 5.13.3 Traditional Land and Resource Use) | • Human Health<br>• Harvesting and gathering of plant material<br>• Hunting<br>• Trapping<br>• Fishing<br>• Cultural and Spiritual<br>• Socio-economic factors | 6.22 (Indigenous Communities) | Slight reductions in access or habitat to practice traditional land use | Overall, the project is anticipated to have very few adverse environmental effects on Aboriginal Peoples which mainly had to do with loss of access or habitat. Due to the relatively small size of the project, what few adverse effects may exist, are not anticipated to have a meaningful effect on the ability of Aboriginal Peoples' overall ability to use lands and resources for traditional purposes. |

## 4.10 Uncertainty Analysis

Within many of the steps of the risk assessment process, assumptions must be made due to a lack of absolute scientific knowledge. Some of the assumptions are supported by considerable scientific evidence, while others have less support. Every assumption introduces some degree of uncertainty into the risk assessment process. Conservative assumptions are made throughout the risk assessment. Therefore, when all of the assumptions are combined, it is much more likely that actual risks, if any, are overestimated rather than underestimated.

The risk assessment is composed of the following elements:

- Problem formulation/hazard identification;
- Toxicity assessment;
- Exposure assessment; and
- Risk characterization.

The assumptions that introduce the greatest amount of uncertainty associated which each of the risk assessment elements in this risk assessment are discussed in this section. They are discussed in general terms, because, for most of the assumptions, there is not enough information to assign a numerical value that can be factored into the calculation of risk.

### 4.10.1 Problem Formulation Uncertainty

Sources of uncertainty in the problem formulation include the following:

- The assessment assumes that human receptors are exposed daily through the consumption of country foods, ingestion and dermal contact of soil, ingestion and dermal contact of surface water, and ingestion and dermal contact with Project-specific media including waste rock, and TSF supernatant water. The following assumptions contribute to uncertainty:
  - Uniform distribution of chemicals in the soil, vegetation and meat (especially the edible portions, such as the fruit and muscles);
  - An equilibrium is rapidly established in the tissues of the plant or meat; and
  - Individuals will always consume the maximum concentrations in the tissue.
- Groundwater and sediment were not considered as media sources of exposure.
- The assessment assumed that individuals will be eating country foods as part of their normal diet. However, there is no analysis of country foods quality. As a result, there is an uncertainty pertaining to the contribution of country food ingestion to the overall COC intake.

### 4.10.2 Toxicity Assessment Uncertainty

Datasets of toxicological information for many chemicals are incomplete. As a result, toxicity values based on these datasets often have varying degrees of uncertainty leading to over- or under-estimation of risks. Uncertainties result in the toxicity assessment because:

- Animal models are used to predict effects on humans. For the extrapolation of animals to human exposures, the exposure limits for chemicals are typically based on animal experiments where exposures to chemicals are administered. Statistical manipulations are performed to derive an appropriate TRV. Therefore, these procedures to derive the TRV imply that humans and animals will respond in similar fashion. In addition, the derivation also requires an assumption that the effects observed at the high doses that were used in the animal experiments would be equally or proportionally similar to effects at the low doses that human exposures would typically occur.

- TRV assume that the chemical exposures yield effects that follow similar physiological mechanisms of action in both animals and humans. These include the detoxification processes as well as the toxicological implications. All of these toxicological uncertainties may contribute to either an over- or under-estimation of the potential risks for the humans exposed to the chemicals.

- Short-term toxicity studies (e.g., maximum two years for rodent studies) are used to predict effects from long-term exposures in humans.

- Predicting potential health effects from the exposure to media at the site requires the use of models to extrapolate the observed health effects from the high doses used in laboratory studies to the anticipated human health effects from low doses experienced in the environment. The models contain conservative assumptions to account for the large degree of uncertainty associated with this extrapolation.

- Toxicity testing on homogenous inbred animal populations are used to predict the effects on the heterogeneous human population.

- Exposure limits developed by leading regulatory agencies typically incorporate large safety/ uncertainty factors to compensate for uncertainties, such as these.

The process used to establish TRVs is more likely to overestimate than underestimate the risks.

### 4.10.3 Exposure Assessment Uncertainty

The exposure assessment makes assumptions regarding the exposure regimes that the human receptors undergo. Uncertainties in the exposure assessment include:

- The EPCs used for environmental and Project-specific media are estimated based on measured and modelled data. While this represents and uncertainty, measured are taken (e.g., use of 95$^{th}$ UCLM) to reduce the likelihood of underestimating exposure.

- Generic uptake factors are employed to estimate concentrations in country foods. This represent an uncertainty.

- Receptor characteristics (e.g., body weight, soil ingestion rate etc.) were obtained from published sources (e.g., Health Canada). The receptor characteristics employed are considered to be reasonably conservative and unlikely to underestimate exposure.

- Receptor characterization associated with exposure period, assumed the Resident receptor was present at the Site every day (i.e., 24 hrs a day, 7 days a week, 52 weeks per year). This results in a conservative assumption of exposure. This has the potential to result in an overestimate of risk.

- The assumption that the metabolism of chemicals in an individual is zero. This is especially important since some metabolism and depuration would occur during the lifespan of an individual. This assumption will consequently over-estimate the risks. Bioavailability is assumed to be 100% for oral exposure, which may not be the case for all COCS and, therefore, can over-estimates the risk.

### 4.10.4 Risk Characterization Uncertainty

In the risk characterization step, toxicity and exposure information are combined to estimate the potential for non-carcinogenic and carcinogenic health effects. The TRVs developed by Health Canada and those adopted by other regulatory agencies are developed using very conservative models and approaches employing several "safety factors." For non-carcinogenic contaminants with a threshold TRV, the conservatism of this approach is compounded by the assumption that only a fraction of the TRV is "allowed" to come from the site, while the remainder is allocated to background exposures (e.g., ambient air, drinking water and diet). The receptor characteristics are also considered to be conservative, and likely overly conservative. As a result, the risk assessment approach is far more likely to overestimate rather underestimate risk.

# 5.0 Ecological Risk Assessment

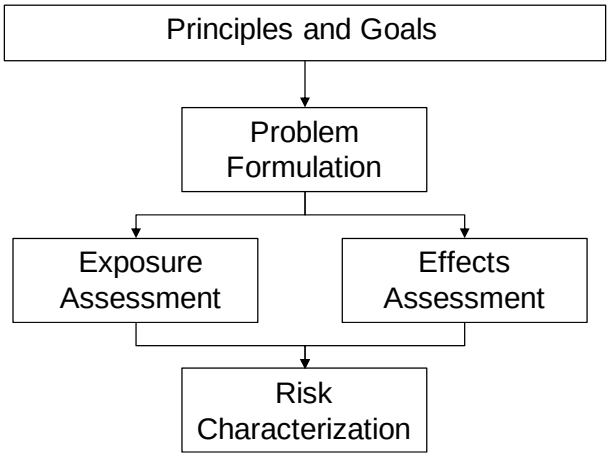
The ecological risk assessment (ERA) for the Site follows a standard framework consistent with CCME (1996, 1997) and with the FCSAP ERA Guidance (FCSAP, 2012a), as illustrated in the diagram to the right.

The fundamental steps in the risk assessment are:

- *Principles and Goals* – describe the purpose of the risk assessment and answer the question "Why is the risk assessment being conducted?"
- *Problem Formulation* – identifies the issues at the Site and sets out the framework within which the risk assessment will be conducted.
- *Exposure Assessment* – quantifies the degree to which organisms encounter contaminant stressors.
- *Effects Assessment* - characterizes the potential ecological effects by each contaminant for exposure conditions.
- *Risk Characterization* – discusses the magnitude and probability of adverse ecological impacts based on the outcomes of the exposure and effects assessments.

## 5.1 Approach

The ERA approach follows the general framework provided in Federal Contaminated Sites Action Plan (FCSAP) guidelines for conducting an ERA (FCSAP 2012) and the CCME Framework (1996, 1997). The ERA will assess potential future risks associated with the Project as opposed to risks associated with existing contamination. As such, the ERA provided herein has been completed by using screening guidelines (i.e., qualitative assessment) and TRVs (i.e., quantitative assessment through the calculation of hazard quotients). Each of these lines of evidence are considered "indirect toxicology evidence".




## 5.2 Principles and Goals

### 5.2.1 Site Management Goal

An important first step is to understand the purpose and application of the ERA. The ERA management goal is the overall planning objective and is a high level narrative statement that reflects the scope of work and objectives of the current study after the COC screening conducted in Section 3.5. The Management goal for the ERA is:

- To determine the potential risk to birds, mammals, amphibians and reptiles, invertebrate and plant communities from COCs in environmental and Project-specific media; and

- To determine the potential risk to Species at Risk (SAR) from COCs in environmental and Project-specific media.

### 5.2.2 Protection Goals

The protection goals applied to ERA are:

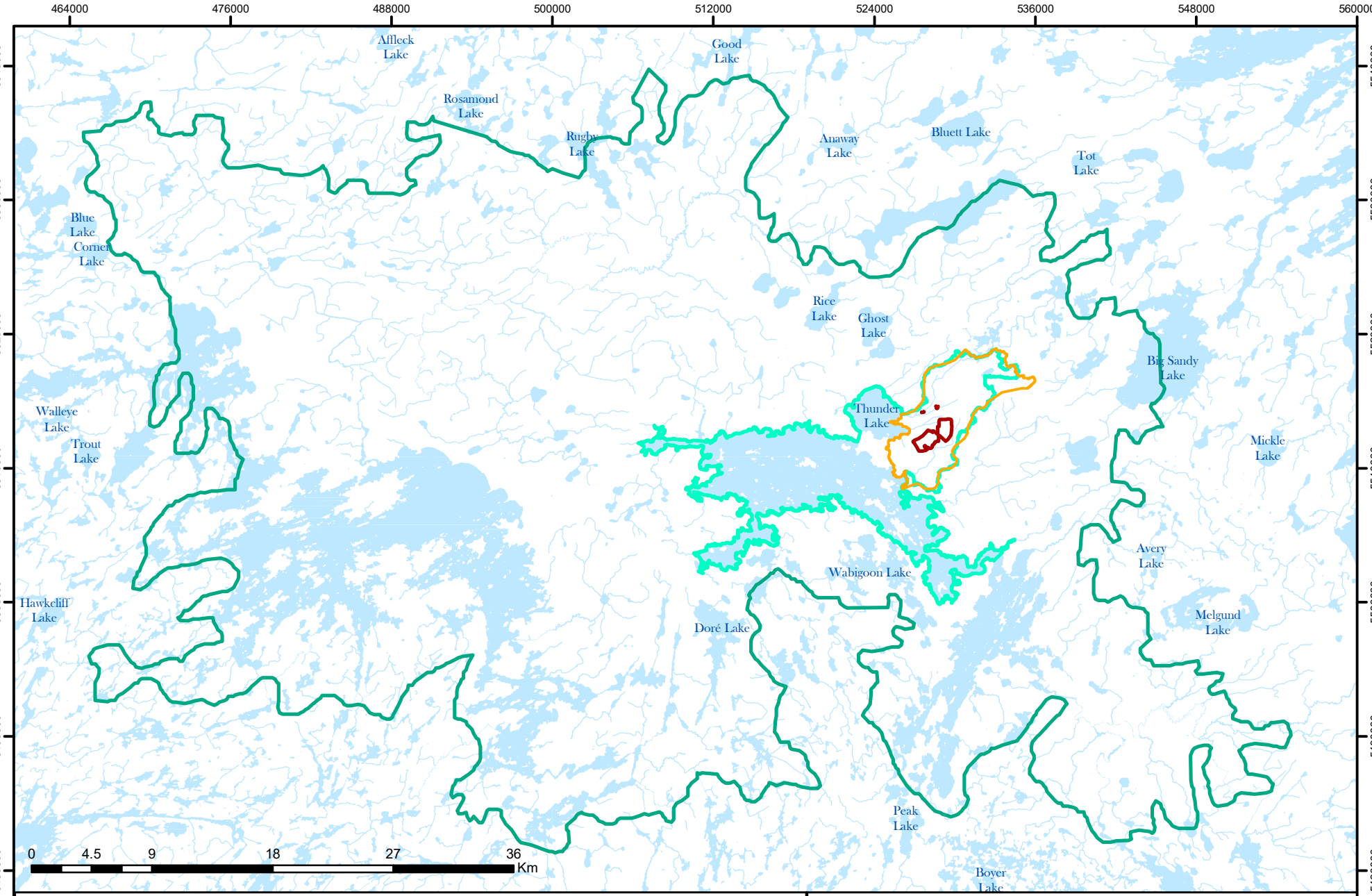
- Terrestrial invertebrate and plant communities exposed to COCs associated with the Project in environmental media will have sustainable populations.
- Aquatic receptors exposed to COCs associated with the Project in surface water will have sustainable populations;
- Exposure to COCs associated with the Project in environmental and Project-specific media will not have an effect on the sustainability (survival, growth or reproduction) of wildlife populations.
- Species at risk will not be adversely impacted by COCs associated with the Project.

## 5.3 Problem Formulation

The Problem Formulation step defines the issues at the Site as they relate to ecological receptors. In this step, COCs are identified and an Ecological Conceptual Site Model (CSM) is developed that describes basic assumptions regarding fate and transport of COCs, ecological receptors, and exposure pathways at each of the three Study Areas.

As part of the baseline studies completed as part of the EIS submission, extensive characterization of plant and invertebrate communities, terrestrial and aquatic organisms including mammals and birds, as well as species at risk was completed. When selecting the ecological receptors assessed as part of the ERA, emphasis will be placed on species that are present in or near the three Study Areas.

The EIS relies on an ecologically meaningful Local Study Area (LSA) and Regional Study Area (RSA) as defined by KBM, who were retained by Treasury Metals as part of the April 2018 EIS submission to revise the biological baseline data collection. The LSA was defined as the lands and waters of the watershed in which the proposed development footprint (includes Operations area and office area) is located. The RSA was defined as the Ontario Ministry of Natural Resources and Forests (MNRF) defined Ecodistrict within which the LSA was located. The LSA and RSA for terrestrial biology are shown in Figure 5.9-1 of the EIS submission and as Figure 5.3-1 below. The LSA and RSA are used to describe the ecological receptors and pathways pertinent to the ERA. All three Study Areas fall within the RSA.




## Legend

- Development Footprint
- Local Study Area
- Regional Study Area
- Wild Rice Local Study Area

**Figure 5.9-1**
**Regional Study Area (RSA) and Local Study Area (LSA) for Terrestrial Resources**

1:391,571
Projection: NAD 1983 UTM Zone 15N
Date created: 2018-04-11

RESOURCES GROUP

### 5.3.1 Receptor Characterization

Valued Ecological Constituents (VECs) are considered any non-human individual, species, population, community, habitat or ecosystem that may potentially be exposed to COCs at the three Study Areas. In the case of selecting lower trophic level VECs such as plants and invertebrates, the community as a whole will be identified as the VEC. Conversely, for higher trophic levels such as birds and mammals, the VECs will be identified at the species level. For higher trophic levels, appropriate surrogate receptors will be selected as VECs in the ERA to represent a group of receptors with similar characteristic features.

When selecting VECs, it is important to consider general characteristics of the Study Areas, land use characteristics, local and regional habitat surveys, species inventory, species that are at risk (i.e., referring to *Species at Risk Act (SARA)*) and/or information from local experts and Residents.

Based on the results of the baseline biological data collection performed by KBM (and others) and provided to Treasury Metals for use in the EIS, VECs that are located in reasonably close proximity to the Project include: terrestrial plants, soil invertebrates, mammals, birds, amphibians and reptiles. Additionally, aquatic receptors are present on and off-Site.

Justification for the selection of each VEC, including information collected as part of the baseline biological data collection, as well as details on surrogate receptor characterization (where applicable), and potential uptake pathways for each receptor are presented below.

#### 5.3.1.1 Terrestrial Plants

The Project is located within the Ontario Shield Ecozone, which is characterised by extensive wetlands and boreal forests. Within the ecozone, the Project occurs within the Wabigoon Ecoregion (Ecoregion 4S) in the Lower English River Section of the Boreal Forest Region. This ecoregion is composed of a range of forest types (mixed forest 25%, sparse forest 24%, and coniferous forest 14%) and open water (24%; Crins et al. 2009). Typical tree species include trembling aspen (*Populus tremuloides*), balsam poplar (*Populus balsamifera*), white and black spruces (*Picea glauca*, *Picea marina*), white birch (*Betula papyrifera*) and willow (*Salix* spp.). The Dryden Forest is composed of coniferous (53%), mixed wood (42%) and broadleaf (5%) forests, 29% of which is considered mature or late stage forest (DFMC 2010).

The non-forested areas within the RSA and LSA are primarily agricultural lands (i.e., pasture or hayfield). A former tree nursery is located at the north edge of the LSA. Other developed areas within the LSA include the Village of Wabigoon (south LSA) and the local landfill site (central-east LSA).

Additionally, potential Blueberry (*Vaccinium sp.)* and Dwarf Raspberry (*Rubus pubescens)* habitat was included in the vegetation effects assessment (Section 6.15 of the revise EIS (April 2018). These berries were selected because of their use as ecosite indicator species, non-overlapping habitat preferences, and their value to Indigenous communities. Potential Blueberry habitat accounted for 2,065.5 ha of the LSA, with Dwarf Raspberry habitat accounting for 936.9 ha (see Figure 5.9.2.3-1 of the EIS (April 2018)).

Vegetation surveys were conducted at 300 local sites during the 2010-2011 field season. Sampling methods were based on the MNRF Ontario Parks Inventory and Monitoring Program (McCaul et al. 2008). A total of 270 vascular plant species were identified in the vicinity of the Project (KCB 2012), 25 of which were introduced species commonly associate with disturbed habitats. Most of the remaining species are typical of Ontario's southern boreal forest.

Consistent with CCME (1996; 1997) guidance, plants were assessed as a group, rather than as separate species. Plants are potentially exposed to COCs via direct contact, root uptake and, in some cases, foliar uptake. The foliar updake pathway is considered essential negligible relative to the direct uptake pathway of exposure and therefore foliar uptake was not considered a pertinent exposure pathway. Direct contact and root uptake from soil was considered the routes of exposure for terrestrial plants examined in this ERA.

#### 5.3.1.2 Invertebrates

Incidental observations gathered during the 2011 field efforts included four butterflies (*Papilo glaucus candensis*, *Colias eurytheme*, *Celastrina ladon*, *Nymphalis antiopa*), two damselflies (*Calopteryx aequabilis*, *Nehalennia irene*) and 16 dragonflies (*Aeshna canadensis*, *Aeshna interrupta*, *Arigomphus cornutus*, *Boyeria grafiana*, *Dorocordulia libera*, *Dromogomphus spinosus*, *Epitheca cynosura*, *Gomphus graslinellus*, *Gomphus lividus*, *Hagenius brevistylus*, *Leucorrhinia hudsonica*, *Libbellula lydia*, *Libellula pulchella*, *Libellula quadrimaculata*, *Macromia illinoiensis*, *Sympetrum danae*).

Only one invertebrate SAR, Monarch (*Danaus plexippus*) is known to occur within the RSA, but was not observed throughout the field program.

Consistent with CCME (1996; 1997) guidance, soil invertebrates were assessed as a group, rather than as separate species. Soil invertebrates are in near-constant direct dermal contact with soil. Soil invertebrates can play a role in nutrient cycling and serve as food sources to many animals higher in the food chain.

#### 5.3.1.3 Mammals

Several mammal surveys were conducted within the LSA, including:

- Encounter surveys (i.e., meandering transects through potential habitat) that focused on key ungulate habitats (e.g., winter deer yards, potential calving areas, mineral licks, and potential denning sites) and SAR habitats (e.g., grasslands for American Badger, *Taxidea taxus taxus*);
- Moose Aquatic Feeding Area surveys (2012, 2016);
- Presence/absence acoustic monitoring for bats (2011 and 2012); and
- An extensive monitoring program established to identify bat maternity roost (2015).

Twenty mammal species were documented in the LSA across the 2011 to 2016 field seasons. Several large mammals and furbearers were regularly observed in the Project area (Table 5.3.1.3-1).

**Table 5.3.1.3-1: Summary of Large Mammals and Furbearers identified in the LSA**

| Large Mammals | | Furbearers | |
|---|---|---|---|
| **Common Name** | **Scientific Name** | **Common Name** | **Scientific Name** |
| Moose | *Alces alces* | American Beaver | *Castor canadensis* |
| White-tailed Deer | *Odocoileus virginianus* | Mink | *Mustela vison* |
| Black Bear | *Ursus americanus* | River Otter | *Lontra canadensis* |
| Gray Wolf | *Canis lupus* | Red Fox | *Vulpes vulpes* |
| | | Muskrat | *Ondantra zibethicus* |
| | | Woodchuck | *Marmota monax* |
| | | Snowshoe Hare | *Lepus americanus* |

Small mammal trapping surveys in October 2012 and July 2016 documented six species over a total of 119 and 160 trap-nights, respectively (Table 5.3.1.3-2).

**Table 5.3.1.3-2: Small Mammal Trapping Summary**

| Common Name | Scientific Name | 2012 | 2016 |
|---|---|---|---|
| Southern Red-Backed Vole | *Clethrionomys gapperi* | 18 | 7 |
| Deer Mouse | *Peromyscus maniculatus* | 12 | |
| Northern Short-tailed Shrew | *Blarina brevicauda* | 1 | |
| Red Squirrel | *Tamiasciurus hudsonicus* | 1 | |
| Least Chipmunks | *Tamias minimus* | | 2 |
| Meadow Jumping Mouse | *Zapus hudsonius* | | 1 |

Passive acoustic monitoring of bat activity in 2011 and 2012 detected five species: Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Big Brown Bat (*Eptesicus fuscus*). Both the Little Brown Myotis and Northern Myotis are listed as endangered in Canada.

Potential bat maternal roosts were sparse within the Project area. Although snag density ranged from 40-50 snags/ha, only five high quality roosts were identified in roughly 22 ha of forest assessed. These snags represent a highly limited resource. No bat species were observed using the roosts during an exit survey in 2015, but two bats of unknown species were observed flying over the area.

Beaver activity was recorded opportunistically as encountered in the field (dams, lodges). Historical beaver activity was determined through a review of past satellite imagery.

No targeted moose calving surveys were completed during the field program; however, efforts to observe evidence of moose calving while conducting other field surveys was made, particularly when surveying wetlands, and peninsulas (i.e., suitable calving areas). No evidence of moose calving was observed during any field surveys. Searches were made for calving evidence during all wetland evaluations and moose aquatic feeding area (MAFA) surveys. One Category 4 (High Potential) MAFA was observed in the LSA. During other field surveys (e.g., bird surveys, small mammal trapping) no signs of calving areas were observed. At no time during any field surveys were calf tracks or calf scat observed anywhere in the LSA.

No targeted mineral lick or den site field surveys were completed during the field program. According to the MNRF's Significant Wildlife Habitat Technical guide, observing and locating mineral licks and den sites, is extremely difficult. With regard to denning sites, The Significant Wildlife Habitat Technical Guide states "*Exhaustive searches are not recommended, since feeding and denning sites for all these mammals are usually very hard to find. Long-term survival of these species and other carnivores with large ranges is best assured by taking a broad, landscape approach to Natural Heritage System planning by identifying and protecting large natural areas that include the best quality habitat for these species. Protection of sufficient habitat for these area-sensitive species will also help provide suitable habitat for many other species*." Locating den sites can be very challenging and is usually accomplished opportunistically. If a den site was observed during any other field survey it would have been documented and marked with a GPS point. No den sites were observed during any field surveys.

Mineral licks are found in association with upwelling groundwater and the soil around these seepage areas. It typically occurs in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till. Suitable surface and sub-surface (i.e., soil) conditions were not observed within the LSA that would support a mineral lick.

The FSCAP guidance for completing an ERA (FCSAP 2012) provides recommendations for surrogate mammal receptors by feeding guild, to be used in an ERA for terrestrial and aquatic environments. For the Goliath Gold Project ERA, emphasis is given to the FSCAP surrogate receptors that were identified in the LSA or RSA as part of the baseline biological data collection.

A discussion of mammalian receptor types and those selected for assessment within the ERA are discussed in Table 5.3.1.3-3.

**Table 5.3.1.3-3: Mammalian Receptors of Concern**

| Receptor Type by Feeding Guild | Discussion | FCSAP Surrogate ROC | Present within the LSA or RSA (yes/no) |
|---|---|---|---|
| Herbivorous | Herbivorous mammal who eat plant material such as nuts, buds, fruit, tubers, roots, leaves, seeds, grasses and berries. | Meadow vole | Yes (Southern Red-Backed Vole) |
| | Herbivorous mammal who consumes plants (including aquatic), leaves, and new growth of shrubs and trees in summer, and twigs of woody vegetation during winter. | Moose | Yes |
| Insectivorous | Insectivorous mammals in Ontario include moles, shrews and bats.<br>Shrew and moles primarily eats insects such as ants, caterpillars, spiders and earthworms, in addition to insect larvae. | Common shrew | Yes (Northern Short-tailed Shrew) |
| | Bats may also consume ground dwelling insects, but also consume flying insects. | Little Brown Myotis* (SAR) | Yes (Little Brown Myotis and Northern Myotis) |

| Receptor Type by Feeding Guild | Discussion | FCSAP Surrogate ROC | Present within the LSA or RSA (yes/no) |
|---|---|---|---|
| Carnivorous | Carnivorous mammals primarily eat meat, which includes other mammals, birds, fish, amphibians and reptiles.<br><br>Carnivores may interact with the Site. However, as carnivores have large habitat ranges they are typically less sensitive than mammals that have smaller territories (i.e., carnivores have less exposure to the Site). A potential exception is for contaminants that have the potential to bioaccumulate. | Short-tailed weasel | Yes |
| Omnivorous | Omnivorous mammals eat a variety of foods, including plants and insects and, for larger omnivores, small mammals and birds. | Red Fox<br><br>Deer mouse | Yes |

NOTES:

* Bats (Little Brown Myotis and Northern Myotis) assessed as a SAR

#### 5.3.1.4 Birds

Several bird surveys were conducted within the LSA and RSA, including:

- Breeding Bird Surveys (2011 to 2012, 2016);
- Barn Swallow nest searches (2012, 2016);
- Bird Migration Surveys (2011);
- Marshbird and Waterfowl Surveys (2011 to 2012, 2016);
- Bobolink Surveys (2011);
- Whip-poor-will and Common Nighthawk Surveys (2011 to 2012); and
- Stick Nest Surveys (2010 to 2011, 2015).

A total of 100 bird species were encountered across 140 breeding bird surveys stations. Avian species richness was highest in developed areas (76 species) when compared to deciduous (65), coniferous (63), wetland (37), successional (35), and upland habitats (28). The most frequently encountered species were: White-throated Sparrow (*Zonotrichia albicollis*, 177 observations), Red-eyed Vireo (*Vireo olivaceus*, 104), Nashville Warbler (*Oreothlypis ruficapilla*, 97), American Robin (*Turdus migratorius*, 85), Swanson's Thrush (*Catharus ustulatus*, 75), Ruby-crowned Kinglet (*Regulus calendula*, 72), Ovenbird (*Seiurus aurocapilla*, 67), Hermit Thrush (*Catharus guttatus,* 57), Red-breasted Nuthatch (*Sitta canadensis*, 50), and Magnolia Warbler (*Dendroica magnolia*, 49).

No active stick nests were detected within the LSA; however, active nests were detected for several species:

- Common Loon (*Gavia immer*): active nest on Thunder Lake;
- Barn Swallow (Hirundo rustica): active nests on buildings on the grounds of the former tree nursery; and
- Common Grackle (Quiscalus quiscala): nest in the central LSA (grackle nests are not protected by the *Migratory Birds Convention Act*).

Seven avian SAR were encountered within the LSA. Generally, the bird communities observed during the environmental baseline surveys are typical of Ontario's boreal forest.

An Information Gathering Form and an Alternatives Assessment Form for Barn Swallow have been submitted to the OMNRF.

**Table 5.3.1.4-1: Summary of Bird SAR observed in the LSA**

| Species | Scientific Name | SARA/COSEWIC | SARO |
|---|---|---|---|
| Bald Eagle | *Haliaeetus leucocephalus* | Not at Risk | Special Concern |
| Barn Swallow | *Hirundo rustica* | Threatened | Threatened |
| Black Tern | *Chlidonias niger* | Not at Risk | Special Concern |
| Common Nighthawk | *Chordeiles minor* | Threatened | Special Concern |
| Olive-sided Flycatcher | *Contopus cooperi* | Threatened | Special Concern |
| Peregrine Falcon | *Falco peregrinus* | Special Concern | Special Concern |
| Rusty Blackbird | *Euphagus carolinus* | Special Concern | — |

The FSCAP guidance for completing an ERA (FCSAP 2012) provides recommendations for surrogate bird receptors by feeding guild, to be used in an ERA for terrestrial and aquatic environments. For the Goliath Gold Project ERA, emphasis is given to the FSCAP surrogate receptors that were identified in the LSA or RSA as part of the baseline biological data collection.

A discussion of bird receptor types and those selected for assessment within the ERA are discussed in Table 5.3.1.4-2.

**Table 5.3.1.4-2: Bird Surrogate Receptors of Concern**

| Receptor Type by Feeding Guild | Discussion | Surrogate ROC | Present within the LSA or RSA (yes/no) |
|---|---|---|---|
| Herbivorous | Herbivorous birds primarily eat plant material, such as nuts, buds, fruit, tubers, nectar, pollen, roots, leaves, seeds, grasses and berries. Few bird species in Ontario are herbivores. Examples include Canada Duck, ruffed grouse and spruce grouse. Herbivorous birds are unlikely to have a strictly herbivorous diet and will also consume insects. | Spruce Grouse | Yes |
| | | | Yes |

| Receptor Type by Feeding Guild | Discussion | Surrogate ROC | Present within the LSA or RSA (yes/no) |
|---|---|---|---|
| Insectivorous | Insectivorous species primarily eat insects such as aquatic insects, ants, spiders and caterpillars. Most birds incorporate insects into their diet; however, birds that are primarily insectivorous include swifts, swallows, flycatchers and warblers. | Barn Swallow* (SAR) | Yes |
| Carnivorous | Carnivorous birds primarily eat meat, which includes mammals, birds, amphibians and reptiles. Carnivorous birds include hawks, falcons, eagles, osprey, vultures and owls. | Red-tailed Hawk | No |
| | | Bald Eagle | Yes |
| Omnivorous | Omnivorous birds will eat a variety of foods, including plants, insects, small mammals and reptiles. They often change their diet dependent upon seasonal availability of the food source. | American Robin<br>Mallard Duck | Yes |

| NOTES: | |
|---|---|
| * | Barn Swallows assessed as a SAR |

### 5.3.1.5 Amphibians and Reptiles

- Several reptile and amphibian field surveys were conducted in the LSA and RSA, including:
- Visual Encounter Surveys (2011); and
- Roadside Call Surveys (2011 and 2012).

Further, passive acoustic monitors were deployed in 2011 to record calls from birds, frogs, and bats (33 recorder location-nights). Six amphibian species have been recorded within the LSA: Spring Peeper (*Pseudacris crucifer*), Boreal Chorus Frog (*Psuedacris maculata*), Grey Treefrog (*Hyla versicolor*), Wood Frog (*Lithobates sylvaticus*), American Toad (*Anaxyrus americanus*), and Blue-spotted Salamander (*Ambystoma jeffersonianum-laterale* "complex").

Extensive visual encounter surveys specifically targeting Snapping Turtles (*Chelydra serpentine*) were conducted in appropriate habitats (e.g., basking logs, soil banks) throughout the field program. Western Painted Turtle (*Chrysemys picta belli*) and Eastern Garter Snake (*Thamnophis sirtalis sirtalis*) were regularly detected within the LSA, but no reptile or amphibian SAR were encountered.

A discussion of amphibian and reptile receptor types considered for assessment within the ERA are discussed in Table 5.3.1.5-1.

**Table 5.3.1.5-1: Amphibian and Reptile Surrogate Receptor of Concern**

| Receptor Type by Feeding Guild | Discussion | Surrogate ROC | Present within the LSA or RSA (yes/no) |
|---|---|---|---|
| Carnivorous Amphibian | Diet is dominated by arthropods such as insects and spiders and occasionally earthworms. | Wood Frog | Yes |
| Carnivorous Reptile | Prey includes amphibians, earthworms, small mammals and birds, freshwater fishes and leeches. | Common Garter Snake | Yes (Eastern Garter Snake) |

The FCSAP is in the process of releasing guidance for the quantitative assessment of amphibians as part of an ERA. A draft version has been released to stakeholders for comment, however is not currently accepted for distribution or citation. Furthermore, currently there is insufficient toxicity data to support the quantitative assessment of reptiles as part of an ERA.

Given the lack of consensus in the scientific community to support the assessment of amphibians and reptiles as part of an ERA, these receptors are addressed qualitatively. Amphibians may be considered as part of the aquatic receptor group given that they will be exposed to COCs via the water pathways, and reptiles may be considered as terrestrial receptors exposed to COCs via ingestion of prey and incidental ingestion of soil and water.

### 5.3.1.6 Aquatic Receptors

Project activities during all Project phases may have the potential to effect fish and fish habitat. The importance of these potential effects to Aboriginal peoples and other stakeholders was highlighted through the engagement process undertaken by Treasury Metals in support of the Project. The following VCs have been used for describing the effects of the Project on fish and fish habitat, as describes in Section 6 of the EIS (April 2018):

- Stream-Resident fish population;
- Migratory fish populations;
- Lake-Resident fish populations; and
- Fish species-at-risk.

The proposed Goliath Gold Project is in the English River watershed, which is tributary to the Winnipeg River and in the Nelson River primary watershed. There are two large lakes in the vicinity of the Project, Thunder Lake and Wabigoon Lake. There are also a number of small streams and tributaries in the vicinity of the Project that drain to Thunder Lake and Wabigoon Lake. The primary watercourse is Blackwater Creek, which runs generally north to south through the Project area, draining into Keplyn's Bay on Wabigoon Lake. Based on the current Project design, two tributaries of Blackwater Creek (referred to as Blackwater Creek Tributary 1 and Blackwater Creek Tributary 2) will be partially overprinted by the Project

and directly impacted. In addition, Blackwater Creek and its tributaries will experience changes in flows as a result of the Project, and will also be the recipient of the treated effluent discharged during Operations. Thunder Lake Tributary 2 and Thunder Lake Tributary 3 are located to the north of the Project and drain into Thunder Lake. During Operations, fresh water needed to supplement the Project will be withdrawn from the former MNRF tree nursery irrigation ponds located on these watercourses.

Additionally, there is the potential that the dewatering of the open pit and underground mine required to provide a safe working environment could affect flows in these watercourses that are underlain by glacial outflow deposits. As part of the refined Project design, a perimeter berm and inboard perimeter ditch will be constructed around the Operations area to isolate it from surrounding environment. The perimeter berm and ditch will enclose a small portion of the catchments for Hoffstrom's Bay Tributary and Little Creek, resulting in decreased flows in each watercourse. The fisheries field investigations were focused on those waterbodies likely to be affected by the Project, including Blackwater Creek and its tributaries, Thunder Lake Tributary 2, Thunder Lake Tributary 3, Little Creek and Hoffstrom's Bay Tributary, as well as those portions of Thunder Lake and Wabigoon Lake in the vicinity of those waterbodies.

Details regarding the fish species present in each of the lakes, streams, and tributaries mentioned above are provided in Section 5 and Appendix Q of the EIS (April 2018).

Changes in surface water quantity on fish and fish habitat was assessed in Section 6 of the EIS. The potential for adverse effects imposed on aquatic receptors that could be exposed to COCs was evaluated herein. Aquatic receptors were addressed as a group which includes aquatic plants, invertebrates and fish and is consistent with the receptors considered in the development of aquatic guidelines. Aquatic receptors can be exposed to COCs through ingestion, direct/dermal contact and through the ingestion of plants and prey.

Aquatic receptors are assessed in the ERA as a group referred to as aquatic organisms which includes plants, benthic invertebrates, and fish.

#### 5.3.1.7 Species at Risk

For the purposes of the EIS and subsequently this ERA, Species at Risk (SAR) are defined as:

- Any species listed as Special Concern, Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO) under the auspices of the provincial *Endangered Species Act*;
- Any plant species identified as provincially rare by the OMNRF Natural Heritage Information Centre (NHIC);
- Any species listed as Special Concern, Threatened or Endangered on Schedule 1 of the federal *Species at Risk Act; and*
- Any species listed as Special Concern, Threatened or Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

**Potential Species at Risk**

While the 2012 baseline report identified 20 plant SAR potentially occurring within the LSA or RSA, an updated search of the Natural Heritage Information Centre (NHIC) database in 2016 resulted in occurrence records for only three plant SAR in the Dryden District (Table 5.3.1.7-1): heart-leaved Alexander (*Zizipa aptera*), Vasey's rush (*Juncus vaseyi*), and western wheat grass (*Pascopyrum smithii*). These occurrences were all located outside of the LSA and the RSA. The other species listed in 2012 occurred in neighboring forest management units, even further from the LSA and RSA. Two additional provincially listed plant species are known to occur within the Kenora region and outside of the RSA: Showy Goldenrod (*Solidago speciosa*) occurs in one single population on an island near Kenora proper, and Western Silvery Aster (*Symphyotrichum sericeum*) has only been identified near Lake of the Woods in prairie habitats.

**Table 5.3.1.7-1: Listed and Locally Rare Vascular Plants with Known or Potential Occurrence within the RSA**

| Scientific Name | Common Name | Rank/ | Scientific Name | Identified Within RSA |
|---|---|---|---|---|
| *Juncus vaseyi* | Vasey's Rush | S3 | NHIC occurrence records in the Dryden and Wabigoon FMUs | N |
| *Zizia aptera* | Heart-leaved Alexanders | S2 | NHIC occurrence record in the Dryden FMU | N |
| *Pascopyrum smithii* | Western Wheatgrass | S2 | NHIC occurrence records in the Dryden FMU | N |
| *Carex parryana* | Parry's Sedge | S1 | NHIC occurrence records in the Crossroute FMU | N |
| *Carex praticola* | Northern Meadow Sedge | S2 | NHIC occurrence records in the Crossroute FMU | N |
| *Crassula aquatic* | Water Pygmyweed | S2 | NHIC occurrence records in the English River and Lac Seul FMUs | N |
| *Hudsonia tormentosa* | Beach Heather | S3 | NHIC occurrence record in the Wabigoon FMU | N |
| *Leucophysalis grandiflora* | Large-flowered Ground Cherry | S3 | NHIC occurrence records in the Crossroute FMU | N |
| *Limosell aquatic* | Northern Mudwort | S2 | NHIC occurrence records in the English River FMU | N |
| *Moehringia macrophylla* | Large-leaved Sandwort | S2 | NHIC occurrence records in the Black Spruce, Dog River-Matawin, and Lakehead FMUs | N |
| *Opuntia fragilis* | Brittle Prickly Pear Cactus | S3 | NHIC occurrence record | N |
| *Polystichum braunii* | Braun's Holly Fern | S3 | NHIC occurrence records in the Dog River-Matawin and Lakehead FMUs | N |
| *Potentilla rivalis* | Brook Cinquefoil | SH | NHIC occurrence records in the Wabigoon and English River FMUs | N |
| *Schoenoplectus heterochaetus* | Slender Bulrush | S3 | NHIC occurrence records in the English River and Kenora FMUs | N |
| *Subularia aquatica* | Water Awlwort | S3 | NHIC occurrence records in the Sapawe FMU | N |

| Scientific Name | Common Name | Rank/ | Scientific Name | Identified Within RSA |
|---|---|---|---|---|
| *Symphotrichum ericodies* | Prairie White Heath Aster | S2 | NHIC occurrence records in the Crossroute and Kenora FMUs | N |
| *var. pansum* | | | | |
| *Caltha natans* | Floating Marsh Marigold | S2 | NHIC occurrence records in Crossroute, English River, Lac Seul, Trout Lake, Whiskey Jack, and Kenora FMUs | Identified by KCB during 2011 vegetation baseline field studies (Thunder Creek at Wabigoon Lake) |
| *Solidago speciosa* | Showy Goldenrod | S1 | Ontario Species at Risk List: Kenora region (known occurrence isolated to one island near Kenora) | N |
| *Symphyotrichum sericeum* | Western Silvery Aster | S1 | Ontario Species at Risk List: Kenora region (known occurrence in Lake of the Woods area); also present in NHIC database in Crossroute and Kenora FMUs | N |
| *Betula alleghaniensis* | Yellow Birch | Locally Rare | Dryden Forest Management Plan; species occurs over a range of habitats with some potential to occur within or adjacent to wetlands | N |
| *Quercus macrocarpa* | Burr Oak | Locally Rare | Dryden Forest Management Plan; species not typically associated with wetland habitats | N |
| *Ulmus laevis* | White Elm | Locally Rare | Dryden Forest Management Plan; species occurs over a range of habitats with some potential to occur within or adjacent to wetlands | N |

A further 29 wildlife SAR are known to occur within, or have ranges that overlap the LSA and RSA (Table 5.3.1.7-2).

**Table 5.3.1.7-2: Wildlife Species at Risk Potentially Occurring or Known to Occur within the LSA and RSA**

| Species | Scientific Name | Designation | | |
|---|---|---|---|---|
| | | SARA | COSEWIC | SARO |
| **BIRDS** | | | | |
| American White Pelican | *Pelecanus erythrorhynchus* | - | Not at Risk | Threatened |
| Bald Eagle | *Haliaeetus leucocephalus* | - | Not at Risk | Special Concern |
| Bank Swallow | *Riparia riparia* | - | Threatened | Threatened |
| Barn Swallow | *Hirundo rustica* | - | Threatened | Threatened |
| Black Tern | *Chlidonias niger* | - | Not at Risk | Special Concern |
| Bobolink | *Dolichonyx oryzivorus* | - | Threatened | Threatened |
| Canada Warbler | *Cardellina canadensis* | Threatened | Threatened | Special Concern |
| Chimney Swift | *Chaetura pelagica* | Threatened | Threatened | Threatened |
| Common Nighthawk | *Chordeiles minor* | Threatened | Threatened | Special Concern |
| Eastern Loggerhead Shrike | *Lanius ludovicianus* | Endangered | Endangered | Endangered |
| Eastern Whip-poor-will | *Caprimulgus vociferous* | Threatened | Threatened | Threatened |
| Eastern Wood Pewee | *Contopus virens* | - | Special Concern | Special Concern |
| Golden Eagle | *Aquila chrysaetos* | - | Not at Risk | Endangered |
| Least Bittern | *Ixobrychus exilis* | Threatened | Threatened | Threatened |
| Olive-sided Flycatcher | *Contopus cooperi* | Threatened | Threatened | Special Concern |
| Peregrine Falcon | *Falco peregrinus* | Special Concern | Special Concern | Special Concern |
| Rusty Blackbird | *Euphagus carolinus* | Special Concern | Special Concern | - |
| Short-eared Owl | *Asio flammeus* | Special Concern | Special Concern | Special Concern |
| Yellow Rail | *Coturnicops noveboracensis* | Special Concern | Special Concern | Special Concern |
| Wood Thrush | *Hylocichla mustelina* | Threatened | Threatened | Special Concern |
| | | | | |
| American Badger | *Taxidus taxus taxus* | Endangered | Endangered | Endangered |
| Eastern Cougar | *Puma concolor* | - | - | Endangered |
| Gray Fox | *Urocyon cinereoargenteus* | Threatened | Threatened | Threatened |

| Species | Scientific Name | Designation | | |
|---|---|---|---|---|
| | | SARA | COSEWIC | SARO |
| Little Brown Myotis | *Myotis lucifugus* | Endangered | Endangered | Endangered |
| Northern Myotis | *Myotis septentrionalis* | Endangered | Endangered | Endangered |
| Wolverine | *Gulo gulo* | - | Special Concern | Threatened |
| Woodland Caribou | *Rangifer tarandus caribou* | Threatened | Threatened | Threatened |
| American Badger | *Taxidus taxus taxus* | Endangered | Endangered | Endangered |
| Eastern Cougar | *Puma concolor* | - | - | Endangered |
| Gray Fox | *Urocyon cinereoargenteus* | Threatened | Threatened | Threatened |
| Little Brown Myotis | *Myotis lucifugus* | Endangered | Endangered | Endangered |
| Northern Myotis | *Myotis septentrionalis* | Endangered | Endangered | Endangered |
| Wolverine | *Gulo gulo* | - | Special Concern | Threatened |
| Woodland Caribou | *Rangifer tarandus caribou* | Threatened | Threatened | Threatened |
| **INVERTEBRATES** | | | | |
| Monarch | *Danaus plexippus* | Special Concern | Special Concern | Special Concern |
| Skillet Clubtail Dragonfly | *Gomphus ventricosus* | - | Endangered | - |
| NOTES: | | | | |
| | SARA – Federal Species at Risk Act; COSEWIC – Committee on the Status of Endangered Wildlife in Canada; SARO – Species at Risk Ontario | | | |

Potential habitat was mapped for the following SAR species:

- Bald Eagle;
- Eastern Wood-Peewee/Wood Thrush;
- Olive -sided Flycatcher;
- Black Tern;
- Yellow Rail/Least Bittern;
- Rusty Blackbird;
- American White Pelican;
- Ground nesting birds (e.g., Whip-poor-will, Common Nighthawk);

- Barn Swallow/Chimney Swift; and
- Snapping Turtle.

**Observed Species at Risk**

***Plants:*** The only plant SAR observed within the LSA (during all field work activities) was the floating marsh marigold observed in the Thunder Creek wetland near the mouth of Thunder Creek. No provincially rare plant communities were documented within the LSA or RSA, nor were any prairie or savannah communities observed. However, both the LSA and RSA contain relatively large stands of old, undisturbed forest.

- Floating marsh marigold will be assessed within the ERA as part of the aquatic receptor assessment.

**Mammals:** Two terrestrial mammal SAR were observed within the LSA during field survey efforts: Little Brown Myotis (2011 and 2012) and Northern Myotis (2012). The maternity roost survey (2015) determined that some high quality roosts are present in the Project area, but at very low densities. No bat species were observed using the roosts during an exit survey in 2015, but two bats of unknown species were observed flying over the area.

- Little Brown Myotis will be assessed as surrogate receptor for an insectivorous mammal.

**Birds:** Eight bird SAR were observed within the LSA during the field survey efforts. Bald Eagle, Barn Swallow, Black Tern, Common Nighthawk, Olive-sided Flycatcher, Peregrine Falcon and Rusty Blackbird. Of these, only Barn Swallows are listed as *Threatened*, and are therefore afforded additional protection within the provincial risk assessment framework.

Barn Swallows were observed foraging over ponds, lakes, fields and other open habitat in the LSA and were commonly observed along roads. Active nests were observed on buildings on the former tree nursery grounds in June 2011 and in 2012. No active nests were observed in 2016, as Treasury personnel had made concerted efforts to restrict access to many of the outbuildings on the property.

- Barn Swallow is included as a surrogate receptor.

**Reptiles and Amphibians**: No reptile or amphibian SAR were observed during the field surveys.

**Terrestrial Invertebrates**: No terrestrial invertebrate SAR were observed during field surveys.

### 5.3.2 Identification of Exposure Scenarios and Operable Pathways

For COCs to have adverse effects on ecological receptors, they must gain access to the organism or receptor. The route by which this occurs is referred to as an exposure pathway and is dependent on the nature of the chemical and the nature of the receptor. A complete exposure pathway is one that meets the following criteria:

- A source of COC of interest must be present;

- Release and transport mechanisms and media must be available to move the COC from the source to the ecological receptors;
- An opportunity must exist for the ecological receptors to contact the affected media; and
- A means must exist by which the COC is taken up by ecological receptors, such as ingestion, inhalation, or direct contact.

The pathways of exposure identified in the ecological CSM are presented in Table 5.3.2-1 and are examined below in more detail.

**Table 5.3.2-1: Potential Exposure Scenarios – Ecological Receptors**

| Receptor Group | Exposure Pathway Description | Pathway Complete? | Assessment Required? | Justification |
|---|---|---|---|---|
| Plants | Direct Contact/Root Uptake (Soil) | Yes | No | No Soil COCs identified |
| | Direct Contact/Root Uptake (Waste Rock) | Yes | No | Waste rock does not represent suitable habitat for plants and sustainable populations of plants within the waste rock is not a goal of the project. |
| Invertebrate | Direct Contact (Soil) | Yes | No | No Soil COCs identified |
| | Direct Contact (Waste Rock) | Yes | No | Waste rock does not represent suitable habitat for invertebrates and sustainable populations of invertebrates within the waste rock is not a goal of the project. |
| Mammals | Air | Yes | No | No Air COCs identified |
| | Water Consumption | Yes | Yes | Surface water, TSF supernatant water and Pit-lake COCs identified |
| | Food Consumption | Yes | Yes | Surface water, waste rock, TSF supernatant water, and pit-lake COCs identified |
| | Incidental Soil Ingestion | Yes | No | No soil COCs identified |
| | Incidental Waste Rock Ingestion | Yes | Yes | Waste rock COCs identified- only relevant for Study Area No. 1 |
| | Dermal Exposure | Yes | No | Exposure considered minimal |
| | Inhalation | Yes | No | No volatile COCs |
| Birds | Air | Yes | No | No Air COCs identified |
| | Water Consumption | Yes | Yes | Surface water, TSF supernatant water, and Pit-lake water COCs identified |
| | Food Consumption | Yes | Yes | Surface water, waste rock, TSF supernatant water, and Pit-lake water COCs identified |
| | Incidental Soil Ingestion | Yes | No | No soil COCs identified |
| | Incidental Waste Rock Ingestion | Yes | Yes | Waste rock COCs identified- only relevant for Study Area No. 1 |
| | Dermal Exposure | Yes | No | Exposure considered minimal |
| | Inhalation | Yes | No | No volatile COCs |
| Amphibians and Reptiles* | Air | Yes | No | There is current insufficient data available to allow for the quantitative assessment of Amphibians and Reptiles as part of an ERA. A qualitative discussion will be provided. |
| | Water Consumption | Yes | No | |
| | Food Consumption | Yes | No | |
| | Incidental Soil Ingestion | Yes | No | |
| | Incidental Waste Rock Ingestion | Yes | No | |
| | Dermal Exposure | Yes | No | |
| | Inhalation | Yes | No | No volatile COCs |
| | Direct / Dermal Contact to TSF | Yes | No | |

| Receptor Group | Exposure Pathway Description | Pathway Complete? | Assessment Required? | Justification |
|---|---|---|---|---|
| Aquatic Receptors | Ingestion of TSF | Yes | No | Although TSF supernatant COCs identified, the TSF does not represent aquatic habitat. |
| | Food Consumption in TSF | Yes | No | |
| | Direct / Dermal Contact to Surface Water | Yes | Yes | Surface Water and Pit-lake COCs identified. |
| | Ingestion of Surface Water | Yes | Yes | |
| | Food Consumption in Surface Water | Yes | Yes | |

#### 5.3.2.1 Direct Contact with Soil and/or Waste Rock

Plants are potentially exposed to COCs via direct contact with soil, root uptake from soil and, in some cases, foliar uptake. There were no air COCs identified, as such foliar uptake will not be considered. Root uptake is the primary route of exposure for terrestrial plants. For root uptake to occur, roots must make contact with contaminants in soil pore water. There were no soil COCs identified in any of the Study Areas and this exposure pathway is incomplete.

The primary route of exposure for soil invertebrates is direct contact with, or ingestion of, COCs in soil. There were no soil COCs identified in any of the Study Areas and this exposure pathway is incomplete.

Waste rock does not represent appropriate habitat for plants and invertebrates and there is no intent to maintain plant or invertebrate populations within the waste rock. It is noted that the waste rock pile will be encapsulated and covered with topsoil prior to revegetation following the Project Closure phase. As such, this exposure pathway is incomplete.

#### 5.3.2.2 Incidental Soil and/or Waste Rock Ingestion, Dermal Exposure, and Inhalation

Mammals and birds are exposed to contaminants in soil and/or waste rock via several pathways, including ingestion and dermal contact. While both pathways can potentially result in uptake depending on the properties of the chemical, the dominant pathway for both birds and mammals is usually ingestion. Feathers and fur limit the amount of contact that chemicals have with skin, and soil adhered to feathers or fur is ultimately ingested during grooming (Sample and Suter, 1994).

The inhalation exposure pathway is not commonly addressed for ecological receptors due to the absence of toxicological effects data. At the Site, there were no volatile COCs identified in the environmental or Project-specific media, and no air COCs were identified for requiring assessment via the fugitive dust pathway. No further assessment of the inhalation pathway is required.

There were no soil COCs identified in any of the Study Areas, however, COCs were identified in waste rock at Study Area No. 1. The assessment of uptake of COCs into mammals and birds will be limited to the waste rock pathway of exposure. It is assumed that exposure to COCs in waste rock is that same as that identified for soil pathways. Soil comprises a small fraction of the diet for many organisms; the actual quantity of soil ingested depends on the life history traits of the species. A major source of soil ingested by both mammals and birds is soil adhered to the surface and the gut of prey items, such as earthworms. Quantities of soil ingested from these different sources are not typically distinguished; rather, exposure is quantified through the estimation of average overall soil consumption (as a fraction of diet) for each species.

#### 5.3.2.3 Water Consumption by Birds and Mammals

Mammals and birds have the potential to be exposed to COCs in surface water, TSF supernatant water, and pit-lake water. Ingestion of surface water and TSF supernatant water are considered operable pathways of exposure. Ingestion of pit-lake water is only operable for the Post-Closure phase of the Project. Exposure via dermal contact to animals with fur and feathers is considered to be insignificant relative to the ingestion pathway.

#### 5.3.2.4 Exposure to Surface Water

Aquatic receptors including plants, fish, invertebrates, and amphibians will be exposed to COCs in surface water or Pit-lake water following Post-Closure. Aquatic receptors, can be exposed to COCs through ingestion, direct/dermal contact and through the ingestion of plants and prey.

There will be no aquatic receptors in the TSF supernatant water and this exposure pathway in incomplete. The assessment of this pathway is limited to exposure to surface water and Pit-lake water.

#### 5.3.2.5 Ingestion of Food/Prey

Mammals and birds can be exposed to COCs in environmental or Project-specific media via consumption of plant materials, invertebrates and/or prey that have accumulated COCs from these media.

### 5.3.3 Supplemental Screening for Ecological Receptors

In Section 3.5 of the HHERA report, COCs were identified based on an exceedance of a regulatory criteria in environmental and/or Project-specific media. The supplemental screening process allows for the definition of COCs that are specific to ecological receptors and the operable pathways described above. The following sub-sections describe the supplemental screening process specific for ecological receptors for all COCs in environmental and Project-specific media.

#### 5.3.3.1 Air

Assessment of the effects of CACs on ecological receptors is not currently practical given that a quantitative approach for human health assessment of these chemicals in air is still being realized by regulators. Thus, no assessment of the effects of CACs in air on ecological receptors has been provided.

Ecological receptors may be exposed to COCs via the inhalation of fugitive dust. None of the chemical parameters predicted in air (as fugitive dust) exceeded their respective screening criteria protective of human health for any of the Assessment Scenarios or Study Areas. The inhalation of fugitive dust is not typically assessed in an ERA as the calculation of risk has an unacceptable level of uncertainty given the lack of receptor specific information including inhalation rates, and toxicity data via this pathway. Exposure through the inhalation of dust is considered minimal relative to the other exposure pathways (i.e., soil ingestion and food ingestion).

As such, no further assessment of the inhalation of fugitive dust pathway is required as part of the ERA.

Dust deposition to overburden soil was modelled and assessed as part of the soil exposure pathways.

#### 5.3.3.2 Soil

None of the chemical parameters measured or predicted in soil exceeded their respective screening criteria for any of the Assessment Scenarios or Study Areas. As such, no potential health risks to ecological receptors are identified via the qualitative assessment of risk. A quantitative assessment of these pathways is not required as part of the ERA

#### 5.3.3.3 Surface Water

Several water COCs were identified as part of the COC selection process including:

- Aluminum;
- Cobalt;
- Methylmercury;
- Silver;
- Thallium; and
- Uranium

The EPC for each of the identified COCs was screened against the MECP (2011)- *"Aquatic Protection Values (APVs)"*

The MECP reviewed aquatic toxicity data to identify APVs to protect aquatic biota. The APV was selected based on the following hierarchy:

1. The freshwater chronic ambient water quality criterion (AWQC) developed by the USEPA. The chronic AWQC is referred to by the USEPA as the continuous chronic criteria (CCC); an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. The most current freshwater CCC was accessed online on July 24, 2008

2. If no CCC value was available, then the acute AQWC was selected and divided by 10 to provide an estimate of chronic toxicity. This only occurred for aldrin and gamma-hexachlorocyclohexane. The acute AWQC is referred to by the USEPA as the continuous maximum criteria (CMC); an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The most current freshwater CMC was accessed online on July 24, 2008.

3. Next, the lowest toxicity effects-based value for freshwater organisms from published journal articles as found in available databases (e.g., USEPA's Ecotoxicology (ECOTOX) database, etc.) were selected and evaluated. The toxicity data collection and screening process is described in more detail below.

4. Lastly, the lowest ecologically based criteria from the Massachusetts Department of Environmental Protection (MADEP 2008).

For the hardness-dependent criteria for the metals cadmium, chromium, copper, lead, nickel, and zinc, APVs were based on total metal concentrations in groundwater using the most current USEPA CCC hardness equation assuming a hardness of 70 mg/L (as $CaCO_3$). This hardness value represents the 5th percentile of the hardness data for groundwater collected since 2000 by the Provincial Groundwater Monitoring Network (PGMN) for up to 423 instrumented monitoring wells in Ontario. This hardness value

is expected to provide a reasonably conservative estimate of the APV for metals since metal toxicity is lower at higher hardness values.

In some cases, the lowest toxicity value was an acute endpoint. In these situations, the APV was determined by dividing the acute toxicity value by 10 to provide an estimate of chronic toxicity.

This hierarchical approach was used by the MECP for all COCs for the Goliath Gold Project with the exception of uranium. Aquatic values from the lowest effects-based toxicity value based on toxicity testing of uranium to aquatic organisms, as no values were available via the hierarchical approach (Vizon SciTec Inc., 2004). The MECP did not provide data for aluminum.

The results of the supplemental screening for the protection of ecological receptors via the surface water exposure pathway is provided in Table 5.3.3.3-1 below. Surface water COC with UCLM EPC which exceed the aquatic protective value include aluminum and silver. However, there is no relevant increase in concentrations above the Base Case Assessment Scenario. This indicates that the incremental changes in metal concentrations associated with the Goliath Gold Project's emissions via effluent and seepage will have very little to no effect on exposure to COCs in baseline surface water at all Study Areas. For surface water quality Treasury Metals has committed that final effluent water quality from the treatment plant will meet PWQO values (CCME values where no PWQO value exists), or background when the background is greater than the PWQO. In the case of mercury, Treasury Metals has committed to discharge at or below a concentration of 0.00002 mg/L (based on an average upstream background concentration in Blackwater Creek). The commitment by Treasury Metals related to mercury is 10 times more stringent than the PWQO.  As such, no potential risks are identified to ecological receptors from exposure to surface water as a result of the Project. No further assessment is required for surface water.

**Table 5.3.3.3-1: Ecological COC Supplemental Screening: Surface Water**

| Parameter | Base Case | Project Only | | | | Project | | | | Supplemental Screening Criteria (mg/L) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Aquatic Receptor Protection Value (APV)[1,2] | Source | Basis |
| **Aluminum** | **$6.22 \times 10^{-1}$** | 0 | 0.00 | 0 | 0.00 | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **$6.22 \times 10^{-1}$** | **0.075**** | PWQO | The lowest concentration that effects the most sensitive aquatic organism and life-stage |
| Cobalt | $1.72 \times 10^{-3}$ | 0 | 0.00 | 0 | 0.00 | $1.72 \times 10^{-3}$ | $1.54 \times 10^{-3}$ | $1.72 \times 10^{-3}$ | $1.58 \times 10^{-3}$ | $5.20 \times 10^{-3}$ | Kuhn et al., 1989. LOEL from ECOTOX database. | LOEL. 28d in *Daphnia magna*. |
| Methylmercury | $8.29 \times 10^{-6}$ | 0 | $2.34 \times 10^{-10}$ | 0 | 0.00 | $8.29 \times 10^{-6}$ | $8.29 \times 10^{-6}$ | $8.29 \times 10^{-6}$ | $8.28 \times 10^{-6}$ | $1.20 \times 10^{-5}$ **($4.00 \times 10^{-6}$**)** | US EPA (1986) | Final Chronic Criterion |
| **Silver** | **$2.09 \times 10^{-4}$** | 0 | $2.71\times 10^{-20}$ | 0 | 0.00 | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** | **$2.09 \times 10^{-4}$** | **$1.20 \times 10^{-4}$** | US EPA (1986) | Final Chronic Criterion |
| Thallium | $6.28 \times 10^{-4}$ | 0 | $1.08\times 10^{-19}$ | 0 | 0.00 | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | $6.28 \times 10^{-4}$ | $4.00 \times 10^{-2}$ | US EPA (1986) | Final Chronic Criterion |
| Uranium | $9.96 \times 10^{-3}$ | 0 | $1.73\times 10^{-18}$ | 0 | 0.00 | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | $9.96 \times 10^{-3}$ | $3.30 \times 10^{-2}$ | Vizon SciTech (2004) | LOEL. IC25 for reproduction in *Ceriodaphnia dubia*. |

**NOTES:**

| | |
|---|---|
| Units | All units in mg/L |
| 1 | MECP 2011. Rationale for the development of soil and ground water standards. |
| 2 | Aquatic Protection Value- Literature derived value based of toxicological data. Assumes no dilution within the water body |
| ** | PWQO and CCME Canadian Water Quality Guideline for the Protection of Freshwater Aquatic Life. As stated by CCME for marine life, At pH> 8 and sediment rich waters, aluminum toxicity not expected. |
| **BOLD & SHADED** | Exceeds Ecological Risk Assessment Supplemental Screening Criteria |

### 5.3.3.4 Project-Specific Media

As discussed in Section 3.6.2.4, Project-Specific Media, ecological receptors within the Operations area (Study Area No. 1) may be exposed waste rock and TSF supernatant water during the Operations phase of the Project. As defined in the exposure assessment, the tailings will be under water cover or encapsulated and therefore the tailings will not present a direct operable pathway of exposure. Supplemental screening is therefore limited to the COCs that exceeded their respective criteria in waste rock and TSF supernatant water.

The MECP Soil Components for Table 2- Soil Components for coarse textured soils were selected for COC screening as part of the ERA. The components for commercial/industrial land use were chosen given that Project-specific media including waste rock and TSF supernatant water are only present during the active mining phases of the Project and therefore Residential or agricultural land use are not appropriate for use within the Operations Area.

The maximum concentrations of COCs in Project-specific that exceeded their CCME SQG or MECP Site Condition Standard in Section 3.5 were further assessed herein against the most conservative MECP Table 2 Soil Components for the following:

- Mammals and Birds - Toxicity reference values are determined and used in exposure models that back-calculate soil concentrations to be protective of some representative mammalian and avian species (American woodcock, meadow vole, sheep, red-winged blackbird, red fox, short-tailed shrew). This value does not vary with soil texture since soil-to-plant uptake factors that are required are not available for different soil textures.

- S-GW3 - soil values that are protective of aquatic life. It varies with soil texture; the more conservative coarse textured soils have been assumed in this ERA. Except for mercury and methylmercury, S-GW3 is not calculated for metals.

**Waste Rock**

As identified in Table 5.3.3.4-1, the concentrations of lead and zinc in waste rock were identified to pose potential risk to mammals and birds who may be exposed to waste rock at Study Area No. 1 during Site Preparation and Construction, Operations, and Post-Closure.

A quantitative assessment of potential risk to ecological receptors is required.

**TSF Supernatant Water**

Birds and small mammals are anticipated to be the only ecological receptors potentially exposed to the TSF supernatant water and only during the Operations phase of the Project. As part of the Round 2 information request process, The Agency requested additional information in order to confirm the predictions that migratory birds, species at risk, and species of use to Indigenous groups will not be affected by accessing open water components of the project study area, and if mitigation measures (including fencing and flagging) would be required (TMI_872-WL(2)-03). To support the response to TMI_872-WL(2)-03, a refined ecological toxicity assessment has been completed to evaluate the potential risk to mammals and birds who may access the open water features of the Project including the TSF, and

minewater pond during operations, and the pit-lake during the post-closure phase (Table 5.3.3.4-2). Given that the MECP does not provide component criteria protective of mammals and birds via exposure to surface water, predicted chemical concentrations in the mine water pond, TSF, and pit-lake are compared to ecotoxicity reference values for mammals and birds from literature. For conservatism, the no observable effect level (NOEL) was selected over the lowest observable effect level (LOEL). The values presented in the table are the lower NOEL for either birds or mammals. According the current regulatory ecological risk assessment guidance, a NOEL is typically only employed when assessing potential risk to species at risk (SAR) which require additional protection at the individual level versus the population level. The results of the refined toxicity assessment presented in Table D1 indicate that the predicted chemical concentrations in all open water features are below levels expected to pose risk to mammals or bird, with the exception of cyanide in the TSF. The predicted cyanide concentration of < 1 mg/L exceeds the NOEL (0.16 mg/L) for SAR birds, however not the LOEL of (1.6 mg/L) protective of all other bird (and mammal) species. Recall from Part A of this response that the predicted cyanide concentration in the TSF is a worst-case scenario based on one data point and is therefore an overly conservative estimate. Barn Swallows are on the only bird SAR listed as threatened or endangered observed in the local study area for which the NOEL would be appropriate, and nesting sites have not been observed in the existing infrastructure since 2016 as Treasury Metals has made concerted efforts to restrict access to many of the outbuildings on the property. Given, that measures are already in place by Treasury Metals to protect barn swallows, and the results presented in Table 2 suggest that there is no potential risk to all other mammals and birds via exposure to open water Project features, no additional risk management or mitigation measures are required at this time.

In the event that the follow-up program for geochemistry described in the Final Goliath Gold Follow-Up Program Addendum determines that the concentration of cyanide in the TSF during operations is much higher than the predicted value of < 1 mg/L, than additional contingency measures such as bird deterrent flag would be considered for the protection of Barn Swallows. As described in the Goliath Gold Project Follow-Up Program Addendum, Treasury Metals has submitted an Information Gathering Form and an Alternatives Assessment Form for Barn Swallow, which is currently being review by the Dryden district OMNRF. It is anticipated that an Overall Benefit Permit will be required if some of the structures are dismantled within the footprint which have previously hosted nesting Barn Swallow. Mandatory monitoring and follow-up reporting will be a condition of the Overall Benefit Permit.

Exposure to TSF supernatant water is considered an operable pathway in the qualitative assessment of residual adverse effects via the sum of all operable exposure pathways.

**Pit-lake**

The water quality of the pit-lake was modelled and COCs selected in the same way as the surface water described in 3.5.3.4. The UCLM EPC concentration of aluminum in the pit-lake during the Post-Closure phase of the Project exceeded its respective CCME criteria protective of freshwater aquatic life (5.3.3.4-3). Treasury Metals has made the following two commitments with respect to pit-lake water quality:

- The pit-lake will be monitored as it is filling to determine whether batch treatment will be required to ensure the water meets PWQO, or background if background levels exceed the PWQO, prior to the discharge from the pit-lake to a tributary of Blackwater Creek (Mit_024).

- Once the pit-lake is fully flooded, it is expected that the monitoring of the water quality in the pit-lake will continue for a period of time to determine whether additional batch treatment may be required to ensure the water released from the pit-lake meets effluent release limits (Mit_124).

Therefore, the water quality in the pit-lake will be equivalent to the existing water quality within the Blackwater Creek system, or will meet the PWQO for the protection of freshwater aquatic life, therefore there would be no change to the predicted effects on wildlife, migratory birds, and species at risk as a result of their exposure to pit-lake water. Furthermore, Treasury Metals have no plans for stocking fish in the pit-lake following closure, and the spillway from the pit-lake will be constructed to inhibit fish passage. As such, there will be no potential risk to aquatic organisms as a result of pit-lake water quality.

**Table 5.3.3.4-1: Ecological (Mammals and Birds) COC Supplemental Screening: Waste Rock**

| Contaminant of Concern (COC) | Exposure Point Concentration (µg/g) | Supplemental Screening Criteria | |
|---|---|---|---|
| | | MECP Table 2 Component values[1] (µg/g) | |
| | Waste Rock | Mammals and Birds | S-GW3 |
| Antimony | 4.695 | 1500 | NV |
| Arsenic | 19.466 | 330 | NV |
| Cadmium | 1.106 | 1.9 | NV |
| **Cobalt** | **119.807** | 180 | NV |
| **Lead*** | **144.735** | **32** | NV |
| Mercury | 0.275 | 20 | $1.3 \times 10^{13}$ |
| Silver | 1.275 | NV | NV |
| **Zinc** | **443.903** | **340** | NV |

NOTES:

| | |
|---|---|
| Units | All units in µg/g |
| 1 | MECP 2011. Rationale for the development of soil and ground water standards, Table 2 Component Values for Full Depth, Potable Water Scenario, coarse textured soil and commercial land use |
| Mammals and Birds | Value protective of mammals and birds |
| S-GW-3 | Soil migrating to surface water, protective of freshwater aquatic life |
| NV | No Value- insufficient toxicity and/or contaminant transport data to support pathway evaluation. Qualitative assessment only |
| **BOLD & SHADED** | Exceeds Ecological Risk Assessment Supplemental Screening Criteria |

**Table 5.3.3.4-2: Ecological (Mammals and Birds) COC Supplemental Screening: TSF Supernatant Water (and other open water features)**

| \Parameter | Predicted Concentration in Open Water Project Feature (mg/L/ppm) | | | No Observable Effect Level for the Protection of Mammals / Birds (ppm) [1] | Ecological Toxicity Reference Value Source |
|---|---|---|---|---|---|
| | Predicted Mine Water Pond | Predicted Pit-lake | Predicted Tailings Supernatant (mg/L or ppm) | | |
| Aluminum | $2.34 \times 10^{1}$ | $2.74 \times 10^{-1}$ | $1.99 \times 10^{-1}$ | $4.50 \times 10^{2}$ | Los Alamos National Laboratory |
| Antimony | $9.59 \times 10^{-4}$ | $1.13 \times 10^{-3}$ | $2.00 \times 10^{-3}$ | $1.47 \times 10^{3}$ | MECP |
| Arsenic | $1.19 \times 10^{-2}$ | $1.42 \times 10^{-3}$ | $1.80 \times 10^{-2}$ | $3.33 \times 10^{2}$ | MECP |
| Cadmium | $2.03 \times 10^{-3}$ | $9.37 \times 10^{-5}$ | $2.00 \times 10^{-3}$ | 1.90 | MECP |
| Cobalt | $2.07 \times 10^{-1}$ | $9.00 \times 10^{-4}$ | $4.00 \times 10^{-3}$ | $1.80 \times 10^{2}$ | MECP |
| Copper | $7.69 \times 10^{-2}$ | $3.89 \times 10^{-3}$ | $1.80 \times 10^{-2}$ | $3.06 \times 10^{3}$ | MECP |
| **Cyanide** | $3.49 \times 10^{-3}$ | $2.07 \times 10^{-3}$ | **<1**** | **0.16 (1.6) [2,3]** | Los Alamos National Laboratory |
| Lead | $5.86 \times 10^{-2}$ | $2.91 \times 10^{-3}$ | $8.20 \times 10^{-2}$ | $3.20 \times 10^{1}$ | MECP |
| Mercury | $4.06 \times 10^{-5}$ | $2.00 \times 10^{-5}$ | $1.80 \times 10^{-3}$ | $2.00 \times 10^{1}$ | MECP |
| Methylmercury | $4.06 \times 10^{-7}$ | $2.00 \times 10^{-7}$ | $1.80 \times 10^{-5}$ | $3.40 \times 10^{-2}$ | MECP |
| Molybdenum | $1.54 \times 10^{-3}$ | $1.01 \times 10^{-3}$ | $1.00 \times 10^{-3}$ | $7.40 \times 10^{1}$ | MECP |
| Silver | $1.48 \times 10^{-4}$ | $9.96 \times 10^{-5}$ | $5.00 \times 10^{-5}$ | $4.50 \times 10^{3}$ | Los Alamos National Laboratory |
| Sulphates | $2.23 \times 10^{1}$ | $2.00 \times 10^{1}$ | $6.87 \times 10^{1}$ | — | — |
| Thallium | $1.07 \times 10^{-3}$ | $3.00 \times 10^{-4}$ | $6.42 \times 10^{-1}$ | $4.70 \times 10^{1}$ | MECP |
| Uranium | $3.55 \times 10^{-2}$ | $5.00 \times 10^{-3}$ | $5.00 \times 10^{-3}$ | $3.30 \times 10^{1}$ | MECP |
| Zinc | $9.31 \times 10^{-1}$ | $3.00 \times 10^{-2}$ | $4.00 \times 10^{-2}$ | $3.37 \times 10^{2}$ | MECP |

**NOTES:**

— no data. Parameter not modelled or insufficient toxicity data available for mammals and birds to drive a toxicity reference value

1 No observable effect level selected as the lowest of birds or mammals from the applicable toxicity reference value data source

2 Exceeds NOEL for birds, however does not exceed NOEL for mammals

3 Does not exceed Lowest Observable Effect Level for Birds of 1.6 mg/L

**Table 5.3.3.4-3: Ecological (Aquatic Organisms) COC Supplemental Screening: Pit-lake Water**

| Contaminant of Concern (COC) | Exposure Point Concentration (mg/L) | Supplemental Screening Criteria (mg/L) | | |
|---|---|---|---|---|
| | Predicted Pit-Lake Water | Aquatic Receptor Protection Value (APV) | Source | Basis |
| **Aluminum** | **0.2735** | **0.075**** | PWQO | The lowest concentration that effects the most sensitive aquatic organism and life-stage |

| NOTES: | |
|---|---|
| Units | All units in mg/L |
| ** | PWQO and CCME Canadian Water Quality Guideline for the Protection of Freshwater Aquatic Life. As stated by CCME, for marine life, At pH> 8 and sediment rich waters, aluminum toxicity not expected. |
| **BOLD & SHADED** | Exceeds Ecological Risk Assessment Supplemental Screening Criteria |

### 5.3.4 Ecological Conceptual Site Exposure Model

The information collected in the problem formulation is depicted on the ecological conceptual site model (Figure 5.3.4-1), which illustrates the source media for COCs, identifies the receptors at each of the Study Areas, and operable exposure pathways by which receptors may be exposed to the COCs.

The Problem Formulation has identified the absence of COCs in air and soil, and thus these exposure pathways do not require further consideration in the ERA. In surface water, aluminum and silver were identified at concentrations which exceed aquatic protective values; however, there is no increase in concentrations above the Base Case Assessment Scenario. As such, no further assessment is required for surface water. Incidental ingestion of soil absorbed to prey and surface water as a drinking water course were considered in the overall calculation of ecological exposure and hazard quotients.

In Waste Rock, lead and zinc were identified at concentrations exceeding screening criteria. Birds and mammals may be exposed to metals in waste rock from direct contact and ingestion of food items. This exposure pathway will be evaluated further.

As described in Section 3, ore/tailings will be maintained under water cover during the Operations Phase of the Project and then encapsulated at Closure through Post-Closure using a wet or dry cover option to physically and chemically isolate the tailings from the surrounding environment. As such, the exposure to the ore/tailings is considered incomplete and will not be evaluated further.

Exposure to birds and mammals through ingestion of the TSF supernatant water, pit-lake water and food items that are exposed to the TSF supernatant water ad pit-lake and will be evaluated further in the ERA.

| Project Emissions | Environmental Media | Release and Transport | Exposure Route | Study Area No. 1: Project Operations Area | | | Study Area No. 2: Local Study Area | | | Study Area No. 3: The Village of Wabigoon | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Terrestrial Plant and Invertebrates | Mammals and Birds | Aquatic Biota | Terrestrial Plant and Invertebrates | Mammals and Birds | Aquatic Biota | Terrestrial Plant and Invertebrates | Mammals and Birds | Aquatic Biota |
| | Air | Fugitive Dust | Inhalation of Particulates | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No |
| | | Deposition | | | | | | | | | | |
| | Soil | | Root Uptake / Dermal Contact / Incidental Ingestion | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No | Yes[1] | Yes[1] | No |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | Yes[1] | No | No | Yes[1] | No | No | Yes[1] | No |
| | | Leaching | | | | | | | | | | |
| | Surface Water | | Direct Contact/Uptake | No | No | Yes[1] | No | No | Yes[1] | No | No | Yes[1] |
| | | | Water Ingestion | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Fish | Ingestion of Fish | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] | No | **Yes[2]** | Yes[1] |
| | **Project Specific Media** | **Release and Transport** | **Exposure Route** | **Terrestrial Plant and Invertebrates** | **Mammals and Birds** | **Aquatic Biota** | **Terrestrial Plant and Invertebrates** | **Mammals and Birds** | **Aquatic Biota** | **Terrestrial Plant and Invertebrates** | **Mammals and Birds** | **Aquatic Biota** |
| | Waste Rock | | Root Uptake / Dermal Contact / Incidental Ingestion | No^ | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | No^ | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | Ore / Tailings | | Root Uptake / Dermal Contact / Incidental Ingestion | No | No | No | No | No | No | No | No | No |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | No | No | No | No | No | No | No | No | No |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | No | No | No | No | No | No | No | No |
| | Tailings Storage Facility Supernatant Water | | Direct Contact/Uptake | No | No | No | No | No | No | No | No | No |
| | | | Water Ingestion | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Fish | Ingestion of Fish | No | No | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | Pit Lake Water | | Direct Contact/Uptake | No | No | **Yes[2]** | No | No | No | No | No | No |
| | | | Water Ingestion | No | **Yes[2]** | **Yes[2]** | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Plants / Intake by Invertebrates | Ingestion of Plants and/or Invertebrates | No | **Yes[2]** | **Yes[2]** | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Food Chain Transfer to Birds and Mammals | Ingestion of Birds and/or Mammals | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |
| | | Uptake by Fish | Ingestion of Fish | No | **Yes[2]** | No | No | **Yes[2]** | No | No | **Yes[2]** | No |

| | |
|---|---|
| Yes[1] | Exposure pathway considered, however no COCs identified in source media |
| Yes[2] | Exposure pathway considered and COCs identified in source media. Exposure pathway will be assessed in ERA |
| No | Exposure pathway considered but determined to be inopreable |
| ^ | Waste rock does not need to support terrestrial plants and invertebrates. However, they are considered in the ingested by birds and mammals in the event that they are present. |

**CLIENT:**
**Treasury Metals Inc.**

**PROJECT: GOLIATH GOLD PROJECT HUMAN HELATH AND ECOLOGICAL RISK ASSESSMENT**

**Wood Environment & Infrastructure**

**TITLE:**
**Figure 5.3.4-1: Ecological Conceptual Site Model for the Goliath Gold Project**

## 5.4 Exposure Estimates

Exposure assessment characterizes the mechanisms by which receptor groups are exposed to COCs and quantifies the magnitude of these exposures.

Exposure estimates are provided for birds and mammals, as described below. Full details are provided in Appendix VI- ERA Model Outputs.

Contaminant uptake was modelled into select mammals and birds as part of the country foods assessment. A similar approach will be employed to estimate exposure for the ERA.

Mammals and birds can integrate exposure from different areas of the Site, not only the areas with the highest concentrations of COCs. Mobile terrestrial receptors therefore receive a dose of COC related to the average concentrations of COCs in soil and food items. Exposure point concentrations used in the calculation represent a 95$^{th}$ UCLM.

Concentrations of COCs in plants, invertebrates, and prey are modelled from waste rock and TSF supernatant from Study Area No. 1 to be used as part of the exposure dose calculation for mammals and birds. Study Area No. 1 is 310 ha which is larger than the foraging range of all surrogate receptors and similar in size as the foraging range of a moose. Thus, the ecological exposure dose calculation assumes that mammals and birds spend 100% of their time within the Operations area which is likely to contribute to an overestimation of potential risk given that the Operations area will not have suitable habitat (i.e., overburden soil to support plant growth or invertebrate communities) for ecological receptors during the active phases of the Project.

### 5.4.1.1 Exposure Point Concentrations

Exposure point concentrations (EPCs) are concentrations in each relevant media to which receptors were assumed to be exposed. The EPCs of metal parameters in relevant media were used for COC selection as detailed in Section 3.5. The EPCs used as inputs in the HHERA Goliath Gold Model are provided in Appendix IV- Model Inputs. The EPC selected for each media type (with the exception of tailings storage facility supernatant water) are the 95% UCLM calculated using calculated following the US EPA (2015) ProUCL guidance document. The TSF supernatant water chemistry coming from the detoxification circuit was modelled using the PHREEQCI model, using results presented in literature (Devuyst et al., 1988; Devuyst et al., 1989) for comparable free milling gold circuits, and only the worst-case maximum predicted value was provided by the supplier. For those parameters identified as a COC based on an exceedance of a regulatory criteria in one or more media types, EPCs in food items (country foods and prey) were modelled from the EPCs in relevant media, as presented in Section 3.5.2.

### 5.4.1.2 Receptor Exposure Characteristics

To calculate the exposure dose, the body weights, food and soil consumption rates and dietary compositions of the receptors are required. A summary of the values is provided in Table 5.4.1.2-1.

**Table 5.4.1.2-1: Ecological Receptor Characteristics**

| Ecological Receptors | Description | Body Weight | Foraging Range | Water Igestion Rate | Food Ingestion Rate | Soil Ingestion Rate | Soil Ingestion Rate | Fraction of Diet: Forage | Fraction of Diet: Berries | Fraction of Diet: Macrophytes | Fraction of Diet: Invertebrate | Fraction of Diet: Bird | Fraction of Diet: Mammal | Fraction of Diet: Modelled Fish |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kg | ha | L/kg wet BW/day | kg dry food/kg wet BW/day | % of dry food ingestion rate | kg dry food/kg wet BW/day | — | — | — | — | — | — | — |
| Eco_Rec_1 | Meadow Vole | 0.0349 | 0.0069 | 0.21 | **0.07** | 0.024 | 0.00168 | 30% | 70% | — | — | — | — | — |
| Eco_Rec_2 | Moose | 400 | 460 | 0.05 | 0.02 | 0.02 | 0.0004 | 80% | — | 20% | — | — | — | — |
| Eco_Rec_3 | Common Shrew | 0.0041 | 0.6 | 0.17 | 0.34 | 0.02 | 0.0068 | 3% | — | — | 95% | — | 3% | — |
| Eco_Rec_4 | Little Brown Myotis* | 0.0075 | — | 0.16 | 0.33 | 0.02 | 0.006666667 | — | — | — | 100% | — | — | — |
| Eco_Rec_5 | Red Fox | 3.8 | 280 | 0.09 | **0.02** | 0.028 | 0.00056 | 8% | 8% | — | 25% | 20% | 40% | — |
| Eco_Rec_6 | Deer Mouse | 0.0217 | 0.012 | 0.19 | **0.04** | 0.02 | 0.0008 | 15% | 35% | — | 50% | — | — | — |
| Eco_Rec_7 | Short tailed weasel | 0.089 | 1 | 0.13 | 0.11 | 0.02 | 0.0022 | — | — | — | 5% | 25% | 70% | — |
| Eco_Rec_8 | Ruffed Grouse | 0.552 | 1 | 0.07 | 0.06 | 0.02 | 0.0012 | 55% | 30% | — | 15% | — | — | — |
| Eco_Rec_9 | Mallard Duck | 1.2 | 9.2 | 0.06 | 0.05 | 0.02 | 0.001 | — | 5% | 50% | 45% | — | — | — |
| Eco_Rec_10 | Barn Swallow | 0.0187 | 80 | 0.22 | 0.26 | 0.02 | 0.0052 | — | 1% | — | 99% | — | — | — |
| Eco_Rec_11 | Red-tailed Hawk | 1.1 | 20 | 0.06 | **0.03** | 0.02 | 0.0006 | — | — | — | — | 10% | 90% | — |
| Eco_Rec_12 | Bald Eagle | 4.7 | 210 | 0.04 | **0.03** | 0.02 | 0.0006 | — | — | — | — | 15% | 20% | 65% |
| Eco_Rec_13 | American Robin | 0.079 | 0.7 | 0.14 | **0.17** | 0.04 | 0.0068 | — | 60% | — | 40% | — | — | — |
| Eco_Rec_14 | Snowshoe Hare | 1.3 | 1.6 | 0.1 | 0.06 | 0.063 | 0.00378 | 90% | 10% | — | — | — | — | — |

NOTES:

References — Receptor characteristics obtained from FCSAP ERA Guidance: Module 3- Standardization of Wildlife Receptor Characteristics (FCSAP 2012)

* — Receptor characteristics for Little Brown Myotis unavailable via FCSAP guidance, Characteristics obtained from Sample et al., 1996 "Toxicological Benchmarks for Wildlife" and the Canadian Wildlife Federation

**BOLD** — Food ingestion rate provided as kg wet food/kg wet BW/day converted to kg dry food/kg wet BW/day

The foraging range (ha) of all receptors is smaller than Study Area No. 1, with the exception of the moose. As stated above in the total dose calculation, all receptors are conservatively assumed to spend 100% of their time exposed to the COC concentrations within the Study Area under assessment, which has the potential to overestimate potential risk. The potential risk estimated for Study Area No. 1 may be particular inflated as Operations Area will not have 310 ha of suitable habitat to support plants and soil organisms, mammals and birds, or aquatic receptors.

#### 5.4.1.3 Total Dose Calculation

For wildlife, exposure to COCs via relevant exposure pathways is determined by calculating an exposure dose (in units of mg/kg/d). Exposure doses calculated in such a manner can be compared to reference doses reported in the literature. This approach assumes mechanisms of toxicity for chemicals are the same regardless of the method of intake.

Estimated doses of COCs for birds and mammals were calculated using FCSAP (2012a) exposure equation describing uptake from ingestion of soil, water and food items.

**Total Exposure Dose =**
**∑Dose Food + Dose from Waste Rock + Dose from TSF Supernatant Water**

**Dose from Food On-Site** ($D_F$) $= I_F \times \sum(C_{Fj\text{-}S} \times p_{Fj})$
**Dose from Soil On-Site** ($D_S$) $= (I_S \times C_s)$
**Dose from Water On-Site** ($D_S$) $= (I_w \times C_w)$

Where:

$C_{Fj\text{-}S}$ = concentration of contaminant in plant/prey item j in the diet on-Site (mg/kg)
$I_F$ = food ingestion rate (kg dry food/kg wet BW/day)
$p_{Fj}$ = proportion of prey item in the diet of the predator
$C_S$ = concentration of contaminant in soil (i.e., waste rock) on-Site (mg/kg)
$I_s$ = soil ingestion rate (kg dry food/kg wet BW/day)
$C_w$ = concentration of contaminant in water on-Site (mg/kg dw)
$I_s$ = water ingestion rate (L/kg wet BW/day)
dw = dry weight (kg)
BW = body weight (kg)

#### 5.4.1.4 Exposure Estimates of Average Daily Dose (mg/kg/day)

Based on the exposure equations, media concentrations, and receptor characteristics described above, exposure estimates for the Base Case, Project Alone, and Project Assessment Scenarios, all Project phases, and the three Study Areas, are provided in the Tables below for each of the 14 mammals or birds evaluated.

**Table 5.4.1.4-1: Exposure Dose for Ecological Receptor 1 (Meadow Vole)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $1.3 \times 10^{-1}$ | $1.4 \times 10^{2}$ | $1.4 \times 10^{2}$ | $1.3 \times 10^{-1}$ | $5.6 \times 10^{-2}$ | $1.9 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $5.6 \times 10^{-2}$ | $1.9 \times 10^{-1}$ |
| Antimony | $1.9 \times 10^{-3}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.9 \times 10^{-3}$ | $9.5 \times 10^{-6}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $9.5 \times 10^{-6}$ | $1.9 \times 10^{-3}$ |
| Arsenic | $7.1 \times 10^{-3}$ | $4.2 \times 10^{-2}$ | $4.2 \times 10^{-2}$ | $7.1 \times 10^{-3}$ | $2.2 \times 10^{-5}$ | $7.1 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $2.2 \times 10^{-5}$ | $7.1 \times 10^{-3}$ |
| Cadmium | $1.0 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $1.0 \times 10^{-3}$ |
| Cobalt | $2.1 \times 10^{-2}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $9.1 \times 10^{-5}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $9.1 \times 10^{-5}$ | $2.1 \times 10^{-2}$ |
| Copper | $1.3 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.8 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.8 \times 10^{-4}$ | $1.3 \times 10^{-1}$ |
| Cyanide | $7.6 \times 10^{-4}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $7.6 \times 10^{-4}$ | 0.0 | $7.6 \times 10^{-4}$ | $7.6 \times 10^{-4}$ | 0.0 | $7.6 \times 10^{-4}$ |
| Lead | $1.9 \times 10^{-2}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.9 \times 10^{-2}$ | $2.4 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.4 \times 10^{-4}$ | $1.9 \times 10^{-2}$ |
| Mercury | $3.4 \times 10^{-4}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $3.4 \times 10^{-4}$ |
| Methylmercury | $1.7 \times 10^{-6}$ | $3.8 \times 10^{-4}$ | $3.8 \times 10^{-4}$ | $1.7 \times 10^{-6}$ | $4.9 \times 10^{-11}$ | $1.7 \times 10^{-6}$ | $1.7 \times 10^{-6}$ | $4.9 \times 10^{-11}$ | $1.7 \times 10^{-6}$ |
| Silver | $3.5 \times 10^{-4}$ | $3.3 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $3.5 \times 10^{-4}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-4}$ | $3.5 \times 10^{-4}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-4}$ |
| Thallium | $5.8 \times 10^{-4}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $5.8 \times 10^{-4}$ | $1.1 \times 10^{-6}$ | $5.9 \times 10^{-4}$ | $5.8 \times 10^{-4}$ | $1.1 \times 10^{-6}$ | $5.9 \times 10^{-4}$ |
| Uranium | $3.0 \times 10^{-3}$ | $2.7 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.4 \times 10^{-6}$ | $3.0 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $1.4 \times 10^{-6}$ | $3.0 \times 10^{-3}$ |
| Zinc | $2.7 \times 10^{-1}$ | 1.8 | 1.8 | $2.7 \times 10^{-1}$ | $1.3 \times 10^{-3}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $1.3 \times 10^{-3}$ | $2.7 \times 10^{-1}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-2: Exposure Dose for Ecological Receptor 2 (Moose)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | 4.0 | $2.7 \times 10^{2}$ | $2.7 \times 10^{2}$ | 4.0 | $1.1 \times 10^{-1}$ | 4.1 | 4.0 | $1.1 \times 10^{-1}$ | 4.1 |
| Antimony | $3.3 \times 10^{-3}$ | $1.7 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $3.3 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $3.3 \times 10^{-3}$ |
| Arsenic | $3.7 \times 10^{-3}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $3.7 \times 10^{-3}$ | $1.1 \times 10^{-5}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $1.1 \times 10^{-5}$ | $3.7 \times 10^{-3}$ |
| Cadmium | $7.2 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $9.0 \times 10^{-3}$ | $7.2 \times 10^{-3}$ | $1.9 \times 10^{-6}$ | $7.2 \times 10^{-3}$ | $7.2 \times 10^{-3}$ | $1.9 \times 10^{-6}$ | $7.2 \times 10^{-3}$ |
| Cobalt | $1.7 \times 10^{-1}$ | $8.6 \times 10^{-2}$ | $2.5 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $3.6 \times 10^{-5}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $3.6 \times 10^{-5}$ | $1.7 \times 10^{-1}$ |
| Copper | $2.1 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $3.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $5.1 \times 10^{-3}$ | $2.2 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $5.1 \times 10^{-3}$ | $2.2 \times 10^{-1}$ |
| Cyanide | $2.3 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | 0.0 | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | 0.0 | $2.3 \times 10^{-2}$ |
| Lead | $3.9 \times 10^{-2}$ | $1.7 \times 10^{-1}$ | $1.9 \times 10^{-1}$ | $3.9 \times 10^{-2}$ | $1.7 \times 10^{-3}$ | $4.0 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $1.7 \times 10^{-3}$ | $4.0 \times 10^{-2}$ |
| Mercury | $1.1 \times 10^{-3}$ | $4.6 \times 10^{-3}$ | $5.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.9 \times 10^{-6}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.9 \times 10^{-6}$ | $1.1 \times 10^{-3}$ |
| Methylmercury | $5.3 \times 10^{-5}$ | $9.0 \times 10^{-5}$ | $1.4 \times 10^{-4}$ | $5.3 \times 10^{-5}$ | $1.5 \times 10^{-9}$ | $5.3 \times 10^{-5}$ | $5.3 \times 10^{-5}$ | $1.5 \times 10^{-9}$ | $5.3 \times 10^{-5}$ |
| Silver | $1.4 \times 10^{-3}$ | $5.2 \times 10^{-4}$ | $1.9 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $5.4 \times 10^{-7}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $5.4 \times 10^{-7}$ | $1.4 \times 10^{-3}$ |
| Thallium | $4.2 \times 10^{-3}$ | $3.2 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $4.2 \times 10^{-3}$ | $2.7 \times 10^{-7}$ | $4.2 \times 10^{-3}$ | $4.2 \times 10^{-3}$ | $2.7 \times 10^{-7}$ | $4.2 \times 10^{-3}$ |
| Uranium | $6.5 \times 10^{-2}$ | $9.2 \times 10^{-4}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $5.5 \times 10^{-7}$ | $6.5 \times 10^{-2}$ | $6.5 \times 10^{-2}$ | $5.5 \times 10^{-7}$ | $6.5 \times 10^{-2}$ |
| Zinc | $3.4 \times 10^{-1}$ | 2.0 | 2.0 | $3.4 \times 10^{-1}$ | $4.3 \times 10^{-3}$ | $3.5 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $4.3 \times 10^{-3}$ | $3.5 \times 10^{-1}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-3: Exposure Dose for Ecological Receptor 3 (Common Shrew)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $1.1 \times 10^{-1}$ | $5.3 \times 10^{2}$ | $5.3 \times 10^{2}$ | $1.1 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $3.2 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $3.2 \times 10^{-1}$ |
| Antimony | $1.7 \times 10^{-1}$ | 1.6 | 1.6 | $1.7 \times 10^{-1}$ | $1.1 \times 10^{-3}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.1 \times 10^{-3}$ | $1.7 \times 10^{-1}$ |
| Arsenic | $3.0 \times 10^{-1}$ | 1.8 | 1.8 | $3.0 \times 10^{-1}$ | $1.0 \times 10^{-3}$ | $3.1 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.0 \times 10^{-3}$ | $3.1 \times 10^{-1}$ |
| Cadmium | 2.1 | 6.1 | 6.1 | 2.1 | $4.5 \times 10^{-3}$ | 2.1 | 2.1 | $4.5 \times 10^{-3}$ | 2.1 |
| Cobalt | $5.3 \times 10^{-1}$ | 5.6 | 5.6 | $5.3 \times 10^{-1}$ | $2.3 \times 10^{-3}$ | $5.3 \times 10^{-1}$ | $5.3 \times 10^{-1}$ | $2.3 \times 10^{-3}$ | $5.3 \times 10^{-1}$ |
| Copper | 6.3 | $1.0 \times 10^{1}$ | $1.0 \times 10^{1}$ | 6.3 | $6.0 \times 10^{-3}$ | 6.3 | 6.3 | $6.0 \times 10^{-3}$ | 6.3 |
| Cyanide | $6.2 \times 10^{-4}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $6.2 \times 10^{-4}$ | 0.0 | $6.2 \times 10^{-4}$ | $6.2 \times 10^{-4}$ | 0.0 | $6.2 \times 10^{-4}$ |
| Lead | $1.0 \times 10^{1}$ | $1.6 \times 10^{2}$ | $1.6 \times 10^{2}$ | $1.0 \times 10^{1}$ | $1.2 \times 10^{-1}$ | $1.0 \times 10^{1}$ | $1.0 \times 10^{1}$ | $1.2 \times 10^{-1}$ | $1.0 \times 10^{1}$ |
| Mercury | $6.7 \times 10^{-2}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $6.7 \times 10^{-2}$ | $1.9 \times 10^{-4}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $1.9 \times 10^{-4}$ | $6.7 \times 10^{-2}$ |
| Methylmercury | $1.4 \times 10^{-6}$ | $3.1 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $1.4 \times 10^{-6}$ | $4.0 \times 10^{-11}$ | $1.4 \times 10^{-6}$ | $1.4 \times 10^{-6}$ | $4.0 \times 10^{-11}$ | $1.4 \times 10^{-6}$ |
| Silver | $7.8 \times 10^{-2}$ | $8.5 \times 10^{-1}$ | $8.5 \times 10^{-1}$ | $7.8 \times 10^{-2}$ | $9.0 \times 10^{-4}$ | $7.9 \times 10^{-2}$ | $7.8 \times 10^{-2}$ | $9.0 \times 10^{-4}$ | $7.9 \times 10^{-2}$ |
| Thallium | $1.7 \times 10^{-1}$ | $3.1 \times 10^{-1}$ | $3.1 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $3.9 \times 10^{-4}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $3.9 \times 10^{-4}$ | $1.7 \times 10^{-1}$ |
| Uranium | $3.4 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $5.1 \times 10^{-4}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $5.1 \times 10^{-4}$ | $3.4 \times 10^{-1}$ |
| Zinc | $3.1 \times 10^{1}$ | $2.1 \times 10^{2}$ | $2.1 \times 10^{2}$ | $3.1 \times 10^{1}$ | $1.3 \times 10^{-1}$ | $3.2 \times 10^{1}$ | $3.1 \times 10^{1}$ | $1.3 \times 10^{-1}$ | $3.2 \times 10^{1}$ |

NOTES:

Units — All units in mg/kg/day

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-4: Exposure Dose for Ecological Receptor 4 (Little Brown Myotis)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | 0.0 | $2.9 \times 10^{2}$ | $2.9 \times 10^{2}$ | 0.0 | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | 0.0 | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Antimony | $1.7 \times 10^{-1}$ | 1.6 | 1.6 | $1.7 \times 10^{-1}$ | $1.1 \times 10^{-3}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.1 \times 10^{-3}$ | $1.7 \times 10^{-1}$ |
| Arsenic | $2.9 \times 10^{-1}$ | 1.7 | 1.7 | $2.9 \times 10^{-1}$ | $9.5 \times 10^{-4}$ | $2.9 \times 10^{-1}$ | $2.9 \times 10^{-1}$ | $9.5 \times 10^{-4}$ | $2.9 \times 10^{-1}$ |
| Cadmium | 2.1 | 6.3 | 6.3 | 2.1 | $4.6 \times 10^{-3}$ | 2.1 | 2.1 | $4.6 \times 10^{-3}$ | 2.1 |
| Cobalt | $4.6 \times 10^{-1}$ | 4.9 | 4.9 | $4.6 \times 10^{-1}$ | $2.0 \times 10^{-3}$ | $4.6 \times 10^{-1}$ | $4.6 \times 10^{-1}$ | $2.0 \times 10^{-3}$ | $4.6 \times 10^{-1}$ |
| Copper | 6.2 | 9.9 | 9.9 | 6.2 | $5.9 \times 10^{-3}$ | 6.2 | 6.2 | $5.9 \times 10^{-3}$ | 6.2 |
| Cyanide | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead | $1.0 \times 10^{1}$ | $1.6 \times 10^{2}$ | $1.6 \times 10^{2}$ | $1.0 \times 10^{1}$ | $1.2 \times 10^{-1}$ | $1.1 \times 10^{1}$ | $1.0 \times 10^{1}$ | $1.2 \times 10^{-1}$ | $1.1 \times 10^{1}$ |
| Mercury | $6.8 \times 10^{-2}$ | $4.8 \times 10^{-1}$ | $4.8 \times 10^{-1}$ | $6.8 \times 10^{-2}$ | $2.0 \times 10^{-4}$ | $6.9 \times 10^{-2}$ | $6.8 \times 10^{-2}$ | $2.0 \times 10^{-4}$ | $6.9 \times 10^{-2}$ |
| Methylmercury | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silver | $8.0 \times 10^{-2}$ | $8.7 \times 10^{-1}$ | $8.7 \times 10^{-1}$ | $8.0 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $8.1 \times 10^{-2}$ | $8.0 \times 10^{-2}$ | $9.1 \times 10^{-4}$ | $8.1 \times 10^{-2}$ |
| Thallium | $1.7 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $4.0 \times 10^{-4}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $4.0 \times 10^{-4}$ | $1.7 \times 10^{-1}$ |
| Uranium | $3.4 \times 10^{-1}$ | $6.4 \times 10^{-1}$ | $6.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $5.2 \times 10^{-4}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $5.2 \times 10^{-4}$ | $3.4 \times 10^{-1}$ |
| Zinc | $3.2 \times 10^{1}$ | $2.1 \times 10^{2}$ | $2.1 \times 10^{2}$ | $3.2 \times 10^{1}$ | $1.3 \times 10^{-1}$ | $3.2 \times 10^{1}$ | $3.2 \times 10^{1}$ | $1.3 \times 10^{-1}$ | $3.2 \times 10^{1}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-5: Exposure Dose for Ecological Receptor 5 (Red Fox)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $5.6 \times 10^{-2}$ | $1.7 \times 10^{1}$ | $1.7 \times 10^{1}$ | $5.6 \times 10^{-2}$ | $7.1 \times 10^{-3}$ | $6.3 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $6.9 \times 10^{-3}$ | $6.3 \times 10^{-2}$ |
| Antimony | $7.6 \times 10^{-4}$ | $5.6 \times 10^{-3}$ | $5.6 \times 10^{-3}$ | $7.6 \times 10^{-4}$ | $3.7 \times 10^{-6}$ | $7.6 \times 10^{-4}$ | $7.6 \times 10^{-4}$ | $3.7 \times 10^{-6}$ | $7.6 \times 10^{-4}$ |
| Arsenic | $2.6 \times 10^{-3}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $2.6 \times 10^{-3}$ | $7.9 \times 10^{-6}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $7.8 \times 10^{-6}$ | $2.6 \times 10^{-3}$ |
| Cadmium | $3.4 \times 10^{-3}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $3.4 \times 10^{-3}$ | $7.5 \times 10^{-6}$ | $3.5 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $7.4 \times 10^{-6}$ | $3.4 \times 10^{-3}$ |
| Cobalt | $7.3 \times 10^{-3}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.3 \times 10^{-3}$ | $3.1 \times 10^{-5}$ | $7.3 \times 10^{-3}$ | $7.3 \times 10^{-3}$ | $3.1 \times 10^{-5}$ | $7.3 \times 10^{-3}$ |
| Copper | $3.0 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $4.9 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $5.6 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $5.4 \times 10^{-5}$ | $2.8 \times 10^{-2}$ |
| Cyanide | $3.3 \times 10^{-4}$ | $9.0 \times 10^{-2}$ | $9.0 \times 10^{-2}$ | $3.3 \times 10^{-4}$ | 0.0 | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | 0.0 | $3.3 \times 10^{-4}$ |
| Lead | $2.1 \times 10^{-2}$ | $3.3 \times 10^{-1}$ | $3.3 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $2.6 \times 10^{-4}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.5 \times 10^{-4}$ | $2.1 \times 10^{-2}$ |
| Mercury | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.5 \times 10^{-4}$ | $4.2 \times 10^{-7}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $4.1 \times 10^{-7}$ | $1.5 \times 10^{-4}$ |
| Methylmercury | $7.5 \times 10^{-7}$ | $1.6 \times 10^{-4}$ | $1.6 \times 10^{-4}$ | $7.5 \times 10^{-7}$ | $2.1 \times 10^{-11}$ | $7.5 \times 10^{-7}$ | $7.5 \times 10^{-7}$ | $2.1 \times 10^{-11}$ | $7.5 \times 10^{-7}$ |
| Silver | $2.1 \times 10^{-4}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-4}$ | $2.2 \times 10^{-6}$ | $2.1 \times 10^{-4}$ | $2.1 \times 10^{-4}$ | $2.2 \times 10^{-6}$ | $2.1 \times 10^{-4}$ |
| Thallium | $4.6 \times 10^{-4}$ | $5.8 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $4.6 \times 10^{-4}$ | $9.4 \times 10^{-7}$ | $4.6 \times 10^{-4}$ | $4.6 \times 10^{-4}$ | $9.3 \times 10^{-7}$ | $4.5 \times 10^{-4}$ |
| Uranium | $1.7 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $1.2 \times 10^{-6}$ | $1.7 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $1.2 \times 10^{-6}$ | $1.7 \times 10^{-3}$ |
| Zinc | $2.1 \times 10^{-1}$ | 1.4 | 1.4 | $2.1 \times 10^{-1}$ | $9.6 \times 10^{-4}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $4.8 \times 10^{-4}$ | $9.6 \times 10^{-2}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-6: Exposure Dose for Ecological Receptor 6 (Deer Mouse)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $1.2 \times 10^{-1}$ | $4.6 \times 10^{1}$ | $4.6 \times 10^{1}$ | $1.2 \times 10^{-1}$ | $1.9 \times 10^{-2}$ | $1.4 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.9 \times 10^{-2}$ | $1.4 \times 10^{-1}$ |
| Antimony | $2.0 \times 10^{-3}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $2.0 \times 10^{-3}$ | $1.0 \times 10^{-5}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $1.0 \times 10^{-5}$ | $2.0 \times 10^{-3}$ |
| Arsenic | $5.1 \times 10^{-3}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $5.1 \times 10^{-3}$ | $1.6 \times 10^{-5}$ | $5.2 \times 10^{-3}$ | $5.1 \times 10^{-3}$ | $1.6 \times 10^{-5}$ | $5.2 \times 10^{-3}$ |
| Cadmium | $1.3 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $2.9 \times 10^{-5}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $2.9 \times 10^{-5}$ | $1.3 \times 10^{-2}$ |
| Cobalt | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-2}$ | $5.4 \times 10^{-5}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $5.4 \times 10^{-5}$ | $1.3 \times 10^{-2}$ |
| Copper | $8.1 \times 10^{-2}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $8.1 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $8.1 \times 10^{-2}$ | $8.1 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $8.1 \times 10^{-2}$ |
| Cyanide | $6.9 \times 10^{-4}$ | $1.9 \times 10^{-1}$ | $1.9 \times 10^{-1}$ | $6.9 \times 10^{-4}$ | 0.0 | $6.9 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | 0.0 | $6.9 \times 10^{-4}$ |
| Lead | $7.1 \times 10^{-2}$ | 1.1 | 1.1 | $7.1 \times 10^{-2}$ | $8.4 \times 10^{-4}$ | $7.2 \times 10^{-2}$ | $7.1 \times 10^{-2}$ | $8.4 \times 10^{-4}$ | $7.2 \times 10^{-2}$ |
| Mercury | $5.3 \times 10^{-4}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $5.3 \times 10^{-4}$ | $1.5 \times 10^{-6}$ | $5.3 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $1.5 \times 10^{-6}$ | $5.3 \times 10^{-4}$ |
| Methylmercury | $1.6 \times 10^{-6}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $4.4 \times 10^{-11}$ | $1.6 \times 10^{-6}$ | $1.6 \times 10^{-6}$ | $4.4 \times 10^{-11}$ | $1.6 \times 10^{-6}$ |
| Silver | $6.4 \times 10^{-4}$ | $6.6 \times 10^{-3}$ | $6.6 \times 10^{-3}$ | $6.4 \times 10^{-4}$ | $6.9 \times 10^{-6}$ | $6.5 \times 10^{-4}$ | $6.4 \times 10^{-4}$ | $6.9 \times 10^{-6}$ | $6.5 \times 10^{-4}$ |
| Thallium | $1.4 \times 10^{-3}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.4 \times 10^{-3}$ | $2.9 \times 10^{-6}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $2.9 \times 10^{-6}$ | $1.4 \times 10^{-3}$ |
| Uranium | $4.4 \times 10^{-3}$ | $5.6 \times 10^{-3}$ | $6.5 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $3.7 \times 10^{-6}$ | $4.4 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $3.7 \times 10^{-6}$ | $4.4 \times 10^{-3}$ |
| Zinc | $2.9 \times 10^{-1}$ | 1.9 | 1.9 | $2.9 \times 10^{-1}$ | $1.4 \times 10^{-3}$ | $2.9 \times 10^{-1}$ | $2.9 \times 10^{-1}$ | $1.4 \times 10^{-3}$ | $2.9 \times 10^{-1}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |

**Table 5.4.1.4-7: Exposure Dose for Ecological Receptor 7 (Short tailed weasel)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $8.2 \times 10^{-2}$ | $5.4 \times 10^{1}$ | $5.4 \times 10^{1}$ | $8.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $1.0 \times 10^{-1}$ | $8.2 \times 10^{-2}$ | $1.7 \times 10^{-2}$ | $9.8 \times 10^{-2}$ |
| Antimony | $4.2 \times 10^{-3}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $4.2 \times 10^{-3}$ | $2.5 \times 10^{-5}$ | $4.2 \times 10^{-3}$ | $4.2 \times 10^{-3}$ | $2.5 \times 10^{-5}$ | $4.1 \times 10^{-3}$ |
| Arsenic | $1.3 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $7.6 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $4.2 \times 10^{-5}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $4.0 \times 10^{-5}$ | $1.3 \times 10^{-2}$ |
| Cadmium | $3.6 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $3.6 \times 10^{-2}$ | $7.9 \times 10^{-5}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $7.8 \times 10^{-5}$ | $3.6 \times 10^{-2}$ |
| Cobalt | $3.3 \times 10^{-2}$ | $3.5 \times 10^{-1}$ | $3.5 \times 10^{-1}$ | $3.3 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $3.3 \times 10^{-2}$ | $3.3 \times 10^{-2}$ | $1.4 \times 10^{-4}$ | $3.3 \times 10^{-2}$ |
| Copper | $2.0 \times 10^{-1}$ | $3.2 \times 10^{-1}$ | $3.2 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $2.3 \times 10^{-4}$ | $2.0 \times 10^{-1}$ | $2.0 \times 10^{-1}$ | $1.9 \times 10^{-4}$ | $1.6 \times 10^{-1}$ |
| Cyanide | $4.8 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $4.8 \times 10^{-4}$ | 0.0 | $4.8 \times 10^{-4}$ | $4.8 \times 10^{-4}$ | 0.0 | $4.7 \times 10^{-4}$ |
| Lead | $1.9 \times 10^{-1}$ | 3.0 | 3.0 | $1.9 \times 10^{-1}$ | $2.3 \times 10^{-3}$ | $2.0 \times 10^{-1}$ | $1.9 \times 10^{-1}$ | $2.2 \times 10^{-3}$ | $1.9 \times 10^{-1}$ |
| Mercury | $1.3 \times 10^{-3}$ | $9.3 \times 10^{-3}$ | $9.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $3.7 \times 10^{-6}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $3.5 \times 10^{-6}$ | $1.2 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-6}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $1.1 \times 10^{-6}$ | $3.0 \times 10^{-11}$ | $1.1 \times 10^{-6}$ | $1.1 \times 10^{-6}$ | $3.0 \times 10^{-11}$ | $1.1 \times 10^{-6}$ |
| Silver | $1.7 \times 10^{-3}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.7 \times 10^{-3}$ | $1.9 \times 10^{-5}$ | $1.7 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $1.8 \times 10^{-5}$ | $1.6 \times 10^{-3}$ |
| Thallium | $3.5 \times 10^{-3}$ | $8.8 \times 10^{-2}$ | $8.8 \times 10^{-2}$ | $3.5 \times 10^{-3}$ | $8.0 \times 10^{-6}$ | $3.5 \times 10^{-3}$ | $3.5 \times 10^{-3}$ | $7.9 \times 10^{-6}$ | $3.5 \times 10^{-3}$ |
| Uranium | $8.0 \times 10^{-3}$ | $1.3 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $8.0 \times 10^{-3}$ | $1.0 \times 10^{-5}$ | $8.0 \times 10^{-3}$ | $8.0 \times 10^{-3}$ | $1.0 \times 10^{-5}$ | $8.0 \times 10^{-3}$ |
| Zinc | 3.1 | $2.0 \times 10^{1}$ | $2.0 \times 10^{1}$ | 3.1 | $1.3 \times 10^{-2}$ | 3.1 | 3.1 | $3.0 \times 10^{-3}$ | $6.8 \times 10^{-1}$ |

NOTES:

Units — All units in mg/kg/day

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-8: Exposure Dose for Ecological Receptor 8 (Ruffed Grouse)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $4.5 \times 10^{-2}$ | $6.0 \times 10^{2}$ | $6.0 \times 10^{2}$ | $4.5 \times 10^{-2}$ | $2.5 \times 10^{-1}$ | $2.9 \times 10^{-1}$ | $4.5 \times 10^{-2}$ | $2.5 \times 10^{-1}$ | $2.9 \times 10^{-1}$ |
| Antimony | $8.7 \times 10^{-3}$ | $8.1 \times 10^{-2}$ | $8.1 \times 10^{-2}$ | $8.7 \times 10^{-3}$ | $5.5 \times 10^{-5}$ | $8.8 \times 10^{-3}$ | $8.7 \times 10^{-3}$ | $5.5 \times 10^{-5}$ | $8.8 \times 10^{-3}$ |
| Arsenic | $1.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $9.7 \times 10^{-2}$ | $1.7 \times 10^{-2}$ | $5.4 \times 10^{-5}$ | $1.7 \times 10^{-2}$ | $1.7 \times 10^{-2}$ | $5.4 \times 10^{-5}$ | $1.7 \times 10^{-2}$ |
| Cadmium | $6.0 \times 10^{-2}$ | $1.8 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $6.0 \times 10^{-2}$ | $1.3 \times 10^{-4}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $1.3 \times 10^{-4}$ | $6.0 \times 10^{-2}$ |
| Cobalt | $3.5 \times 10^{-2}$ | $3.6 \times 10^{-1}$ | $3.6 \times 10^{-1}$ | $3.5 \times 10^{-2}$ | $1.5 \times 10^{-4}$ | $3.5 \times 10^{-2}$ | $3.5 \times 10^{-2}$ | $1.5 \times 10^{-4}$ | $3.5 \times 10^{-2}$ |
| Copper | $5.8 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | $9.3 \times 10^{-1}$ | $5.8 \times 10^{-1}$ | $5.8 \times 10^{-4}$ | $5.8 \times 10^{-1}$ | $5.8 \times 10^{-1}$ | $5.8 \times 10^{-4}$ | $5.8 \times 10^{-1}$ |
| Cyanide | $2.6 \times 10^{-4}$ | $7.2 \times 10^{-2}$ | $7.2 \times 10^{-2}$ | $2.6 \times 10^{-4}$ | 0.0 | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | 0.0 | $2.6 \times 10^{-4}$ |
| Lead | $3.1 \times 10^{-1}$ | 4.8 | 4.8 | $3.1 \times 10^{-1}$ | $3.6 \times 10^{-3}$ | $3.1 \times 10^{-1}$ | $3.1 \times 10^{-1}$ | $3.6 \times 10^{-3}$ | $3.1 \times 10^{-1}$ |
| Mercury | $3.3 \times 10^{-3}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $3.3 \times 10^{-3}$ | $9.4 \times 10^{-6}$ | $3.3 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $9.4 \times 10^{-6}$ | $3.3 \times 10^{-3}$ |
| Methylmercury | $5.9 \times 10^{-7}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $5.9 \times 10^{-7}$ | $1.7 \times 10^{-11}$ | $5.9 \times 10^{-7}$ | $5.9 \times 10^{-7}$ | $1.7 \times 10^{-11}$ | $5.9 \times 10^{-7}$ |
| Silver | $2.5 \times 10^{-3}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.5 \times 10^{-3}$ | $2.9 \times 10^{-5}$ | $2.6 \times 10^{-3}$ | $2.5 \times 10^{-3}$ | $2.9 \times 10^{-5}$ | $2.6 \times 10^{-3}$ |
| Thallium | $5.0 \times 10^{-3}$ | $5.2 \times 10^{-2}$ | $5.2 \times 10^{-2}$ | $5.0 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $5.0 \times 10^{-3}$ | $5.0 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $5.0 \times 10^{-3}$ |
| Uranium | $1.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.5 \times 10^{-5}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.5 \times 10^{-5}$ | $1.1 \times 10^{-2}$ |
| Zinc | 1.6 | $1.1 \times 10^{1}$ | $1.1 \times 10^{1}$ | 1.6 | $7.0 \times 10^{-3}$ | 1.6 | 1.6 | $7.0 \times 10^{-3}$ | 1.6 |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-9: Exposure Dose for Ecological Receptor 9 (Mallard Duck)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $2.5 \times 10^{1}$ | $4.1 \times 10^{1}$ | $6.6 \times 10^{1}$ | $2.5 \times 10^{1}$ | $1.7 \times 10^{-2}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ | $1.7 \times 10^{-2}$ | $2.5 \times 10^{1}$ |
| Antimony | $2.0 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $2.0 \times 10^{-2}$ | $7.6 \times 10^{-5}$ | $2.1 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $7.6 \times 10^{-5}$ | $2.1 \times 10^{-2}$ |
| Arsenic | $2.5 \times 10^{-2}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $2.5 \times 10^{-2}$ | $7.6 \times 10^{-5}$ | $2.5 \times 10^{-2}$ | $2.5 \times 10^{-2}$ | $7.6 \times 10^{-5}$ | $2.5 \times 10^{-2}$ |
| Cadmium | $1.8 \times 10^{-1}$ | $4.3 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $3.1 \times 10^{-4}$ | $1.8 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $3.1 \times 10^{-4}$ | $1.8 \times 10^{-1}$ |
| Cobalt | 1.1 | $4.5 \times 10^{-1}$ | 1.5 | 1.1 | $1.9 \times 10^{-4}$ | 1.1 | 1.1 | $1.9 \times 10^{-4}$ | 1.1 |
| Copper | $7.2 \times 10^{-1}$ | $7.2 \times 10^{-1}$ | $9.9 \times 10^{-1}$ | $7.2 \times 10^{-1}$ | $3.1 \times 10^{-2}$ | $7.5 \times 10^{-1}$ | $7.2 \times 10^{-1}$ | $3.1 \times 10^{-2}$ | $7.5 \times 10^{-1}$ |
| Cyanide | $1.5 \times 10^{-1}$ | $5.6 \times 10^{-2}$ | $2.0 \times 10^{-1}$ | $1.5 \times 10^{-1}$ | 0.0 | $1.5 \times 10^{-1}$ | $1.5 \times 10^{-1}$ | 0.0 | $1.5 \times 10^{-1}$ |
| Lead | $8.9 \times 10^{-1}$ | $1.1 \times 10^{1}$ | $1.1 \times 10^{1}$ | $8.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $9.0 \times 10^{-1}$ | $8.9 \times 10^{-1}$ | $1.8 \times 10^{-2}$ | $9.0 \times 10^{-1}$ |
| Mercury | $7.7 \times 10^{-3}$ | $3.3 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $7.7 \times 10^{-3}$ | $1.3 \times 10^{-5}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $1.3 \times 10^{-5}$ | $7.7 \times 10^{-3}$ |
| Methylmercury | $3.3 \times 10^{-4}$ | $1.0 \times 10^{-4}$ | $4.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $9.4 \times 10^{-9}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $9.4 \times 10^{-9}$ | $3.3 \times 10^{-4}$ |
| Silver | $1.4 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $6.3 \times 10^{-5}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $6.3 \times 10^{-5}$ | $1.4 \times 10^{-2}$ |
| Thallium | $3.7 \times 10^{-2}$ | $5.0 \times 10^{-2}$ | $7.5 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $2.8 \times 10^{-5}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $2.8 \times 10^{-5}$ | $3.7 \times 10^{-2}$ |
| Uranium | $4.2 \times 10^{-1}$ | $4.4 \times 10^{-2}$ | $4.4 \times 10^{-1}$ | $4.2 \times 10^{-1}$ | $3.6 \times 10^{-5}$ | $4.2 \times 10^{-1}$ | $4.2 \times 10^{-1}$ | $3.6 \times 10^{-5}$ | $4.2 \times 10^{-1}$ |
| Zinc | 2.5 | $1.5 \times 10^{1}$ | $1.5 \times 10^{1}$ | 2.5 | $2.8 \times 10^{-2}$ | 2.6 | 2.5 | $2.8 \times 10^{-2}$ | 2.6 |

NOTES:

Units — All units in mg/kg/day

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-10: Exposure Dose for Ecological Receptor 10 (Barn Swallow)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $1.4 \times 10^{-1}$ | $3.1 \times 10^{2}$ | $3.1 \times 10^{2}$ | $1.4 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $2.7 \times 10^{-1}$ |
| Antimony | $1.3 \times 10^{-1}$ | 1.2 | 1.2 | $1.3 \times 10^{-1}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $8.4 \times 10^{-4}$ | $1.3 \times 10^{-1}$ |
| Arsenic | $2.4 \times 10^{-1}$ | 1.4 | 1.4 | $2.4 \times 10^{-1}$ | $7.9 \times 10^{-4}$ | $2.4 \times 10^{-1}$ | $2.4 \times 10^{-1}$ | $7.9 \times 10^{-4}$ | $2.4 \times 10^{-1}$ |
| Cadmium | 1.6 | 4.9 | 4.9 | 1.6 | $3.6 \times 10^{-3}$ | 1.7 | 1.6 | $3.6 \times 10^{-3}$ | 1.7 |
| Cobalt | $4.2 \times 10^{-1}$ | 4.4 | 4.4 | $4.2 \times 10^{-1}$ | $1.8 \times 10^{-3}$ | $4.2 \times 10^{-1}$ | $4.2 \times 10^{-1}$ | $1.8 \times 10^{-3}$ | $4.2 \times 10^{-1}$ |
| Copper | 4.9 | 7.9 | 7.9 | 4.9 | $4.8 \times 10^{-3}$ | 4.9 | 4.9 | $4.8 \times 10^{-3}$ | 4.9 |
| Cyanide | $7.9 \times 10^{-4}$ | $2.2 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $7.9 \times 10^{-4}$ | 0.0 | $7.9 \times 10^{-4}$ | $7.9 \times 10^{-4}$ | 0.0 | $7.9 \times 10^{-4}$ |
| Lead | 8.1 | $1.3 \times 10^{2}$ | $1.3 \times 10^{2}$ | 8.1 | $9.4 \times 10^{-2}$ | 8.2 | 8.1 | $9.4 \times 10^{-2}$ | 8.2 |
| Mercury | $5.3 \times 10^{-2}$ | $3.7 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $5.3 \times 10^{-2}$ | $1.5 \times 10^{-4}$ | $5.3 \times 10^{-2}$ | $5.3 \times 10^{-2}$ | $1.5 \times 10^{-4}$ | $5.3 \times 10^{-2}$ |
| Methylmercury | $1.8 \times 10^{-6}$ | $3.9 \times 10^{-4}$ | $3.9 \times 10^{-4}$ | $1.8 \times 10^{-6}$ | $5.1 \times 10^{-11}$ | $1.8 \times 10^{-6}$ | $1.8 \times 10^{-6}$ | $5.1 \times 10^{-11}$ | $1.8 \times 10^{-6}$ |
| Silver | $6.2 \times 10^{-2}$ | $6.8 \times 10^{-1}$ | $6.8 \times 10^{-1}$ | $6.2 \times 10^{-2}$ | $7.1 \times 10^{-4}$ | $6.3 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $7.1 \times 10^{-4}$ | $6.3 \times 10^{-2}$ |
| Thallium | $1.3 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $3.0 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $3.1 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $3.1 \times 10^{-4}$ | $1.3 \times 10^{-1}$ |
| Uranium | $2.7 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $5.0 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $4.0 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $4.0 \times 10^{-4}$ | $2.7 \times 10^{-1}$ |
| Zinc | $2.5 \times 10^{1}$ | $1.6 \times 10^{2}$ | $1.6 \times 10^{2}$ | $2.5 \times 10^{1}$ | $1.1 \times 10^{-1}$ | $2.5 \times 10^{1}$ | $2.5 \times 10^{1}$ | $1.1 \times 10^{-1}$ | $2.5 \times 10^{1}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-11: Exposure Dose for Ecological Receptor 11 (Red-tailed Hawk)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $3.6 \times 10^{-2}$ | $1.0 \times 10^{1}$ | $1.0 \times 10^{1}$ | $3.6 \times 10^{-2}$ | $4.2 \times 10^{-3}$ | $4.0 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-2}$ |
| Antimony | $4.2 \times 10^{-4}$ | $3.0 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $4.2 \times 10^{-4}$ | $2.0 \times 10^{-6}$ | $4.2 \times 10^{-4}$ | $4.2 \times 10^{-4}$ | $1.9 \times 10^{-6}$ | $4.2 \times 10^{-4}$ |
| Arsenic | $2.2 \times 10^{-3}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $2.2 \times 10^{-3}$ | $6.7 \times 10^{-6}$ | $2.2 \times 10^{-3}$ | $2.2 \times 10^{-3}$ | $6.7 \times 10^{-6}$ | $2.2 \times 10^{-3}$ |
| Cadmium | $2.4 \times 10^{-4}$ | $8.1 \times 10^{-4}$ | $8.1 \times 10^{-4}$ | $2.4 \times 10^{-4}$ | $5.1 \times 10^{-7}$ | $2.4 \times 10^{-4}$ | $2.4 \times 10^{-4}$ | $4.9 \times 10^{-7}$ | $2.3 \times 10^{-4}$ |
| Cobalt | $6.9 \times 10^{-3}$ | $7.2 \times 10^{-2}$ | $7.2 \times 10^{-2}$ | $6.9 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $6.9 \times 10^{-3}$ | $6.9 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $6.9 \times 10^{-3}$ |
| Copper | $1.6 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $2.7 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $3.3 \times 10^{-5}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $3.2 \times 10^{-5}$ | $1.5 \times 10^{-2}$ |
| Cyanide | $2.1 \times 10^{-4}$ | $5.7 \times 10^{-2}$ | $5.7 \times 10^{-2}$ | $2.1 \times 10^{-4}$ | 0.0 | $2.1 \times 10^{-4}$ | $2.1 \times 10^{-4}$ | 0.0 | $2.1 \times 10^{-4}$ |
| Lead | $5.7 \times 10^{-3}$ | $9.2 \times 10^{-2}$ | $9.2 \times 10^{-2}$ | $5.7 \times 10^{-3}$ | $7.2 \times 10^{-5}$ | $5.8 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $7.2 \times 10^{-5}$ | $5.8 \times 10^{-3}$ |
| Mercury | $3.0 \times 10^{-5}$ | $2.9 \times 10^{-4}$ | $2.9 \times 10^{-4}$ | $3.0 \times 10^{-5}$ | $7.5 \times 10^{-8}$ | $3.0 \times 10^{-5}$ | $3.0 \times 10^{-5}$ | $6.8 \times 10^{-8}$ | $2.8 \times 10^{-5}$ |
| Methylmercury | $4.7 \times 10^{-7}$ | $1.0 \times 10^{-4}$ | $1.0 \times 10^{-4}$ | $4.7 \times 10^{-7}$ | $1.3 \times 10^{-11}$ | $4.7 \times 10^{-7}$ | $4.7 \times 10^{-7}$ | $1.3 \times 10^{-11}$ | $4.7 \times 10^{-7}$ |
| Silver | $8.4 \times 10^{-5}$ | $7.9 \times 10^{-4}$ | $8.0 \times 10^{-4}$ | $8.4 \times 10^{-5}$ | $8.3 \times 10^{-7}$ | $8.5 \times 10^{-5}$ | $8.4 \times 10^{-5}$ | $8.0 \times 10^{-7}$ | $8.3 \times 10^{-5}$ |
| Thallium | $1.9 \times 10^{-4}$ | $3.7 \times 10^{-2}$ | $3.7 \times 10^{-2}$ | $1.9 \times 10^{-4}$ | $3.6 \times 10^{-7}$ | $1.9 \times 10^{-4}$ | $1.9 \times 10^{-4}$ | $3.5 \times 10^{-7}$ | $1.9 \times 10^{-4}$ |
| Uranium | $8.7 \times 10^{-4}$ | $8.5 \times 10^{-4}$ | $1.1 \times 10^{-3}$ | $8.7 \times 10^{-4}$ | $4.6 \times 10^{-7}$ | $8.7 \times 10^{-4}$ | $8.7 \times 10^{-4}$ | $4.6 \times 10^{-7}$ | $8.7 \times 10^{-4}$ |
| Zinc | $1.3 \times 10^{-1}$ | $8.3 \times 10^{-1}$ | $8.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $5.9 \times 10^{-4}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $2.2 \times 10^{-4}$ | $4.1 \times 10^{-2}$ |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-12: Exposure Dose for Ecological Receptor 12 (Bald Eagle)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $2.2 \times 10^{-1}$ | $1.1 \times 10^{1}$ | $1.1 \times 10^{1}$ | $2.2 \times 10^{-1}$ | $4.3 \times 10^{-3}$ | $2.3 \times 10^{-1}$ | $2.2 \times 10^{-1}$ | $4.0 \times 10^{-3}$ | $2.3 \times 10^{-1}$ |
| Antimony | $4.7 \times 10^{-4}$ | $2.9 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $4.7 \times 10^{-4}$ | $2.0 \times 10^{-6}$ | $4.7 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $1.9 \times 10^{-6}$ | $4.6 \times 10^{-4}$ |
| Arsenic | $2.3 \times 10^{-3}$ | $1.2 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $2.3 \times 10^{-3}$ | $6.7 \times 10^{-6}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $6.7 \times 10^{-6}$ | $2.3 \times 10^{-3}$ |
| Cadmium | $3.0 \times 10^{-4}$ | $7.8 \times 10^{-4}$ | $8.4 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $5.2 \times 10^{-7}$ | $3.0 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $4.9 \times 10^{-7}$ | $2.8 \times 10^{-4}$ |
| Cobalt | $7.7 \times 10^{-3}$ | $7.2 \times 10^{-2}$ | $7.3 \times 10^{-2}$ | $7.7 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $7.7 \times 10^{-3}$ | $7.7 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $7.7 \times 10^{-3}$ |
| Copper | $1.9 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.1 \times 10^{-4}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.1 \times 10^{-4}$ | $1.7 \times 10^{-2}$ |
| Cyanide | $3.4 \times 10^{-3}$ | $3.5 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $3.4 \times 10^{-3}$ | 0.0 | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | 0.0 | $3.4 \times 10^{-3}$ |
| Lead | $5.9 \times 10^{-3}$ | $9.1 \times 10^{-2}$ | $9.1 \times 10^{-2}$ | $5.9 \times 10^{-3}$ | $8.0 \times 10^{-5}$ | $6.0 \times 10^{-3}$ | $5.9 \times 10^{-3}$ | $8.0 \times 10^{-5}$ | $5.9 \times 10^{-3}$ |
| Mercury | $3.9 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $6.2 \times 10^{-4}$ | $3.9 \times 10^{-4}$ | $8.0 \times 10^{-8}$ | $3.9 \times 10^{-4}$ | $3.9 \times 10^{-4}$ | $7.1 \times 10^{-8}$ | $3.9 \times 10^{-4}$ |
| Methylmercury | $4.0 \times 10^{-2}$ | $6.5 \times 10^{-5}$ | $4.0 \times 10^{-2}$ | $4.0 \times 10^{-2}$ | $1.1 \times 10^{-6}$ | $4.0 \times 10^{-2}$ | $4.0 \times 10^{-2}$ | $1.1 \times 10^{-6}$ | $4.0 \times 10^{-2}$ |
| Silver | $2.7 \times 10^{-4}$ | $8.0 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $8.4 \times 10^{-7}$ | $2.7 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $8.0 \times 10^{-7}$ | $2.6 \times 10^{-4}$ |
| Thallium | $9.1 \times 10^{-3}$ | $2.3 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $9.1 \times 10^{-3}$ | $3.6 \times 10^{-7}$ | $9.1 \times 10^{-3}$ | $9.1 \times 10^{-3}$ | $3.5 \times 10^{-7}$ | $9.1 \times 10^{-3}$ |
| Uranium | $1.8 \times 10^{-3}$ | $7.4 \times 10^{-4}$ | $2.0 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $4.6 \times 10^{-7}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $4.6 \times 10^{-7}$ | $1.8 \times 10^{-3}$ |
| Zinc | $1.9 \times 10^{-1}$ | 1.1 | 1.1 | $1.9 \times 10^{-1}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-1}$ | $1.9 \times 10^{-1}$ | $1.4 \times 10^{-3}$ | $6.0 \times 10^{-2}$ |

NOTES:

| | |
|---|---|
| Units | All units in mg/kg/day |
| — | Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment |

**Table 5.4.1.4-13: Exposure Dose for Ecological Receptor 13 (American Robin)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $8.5 \times 10^{-2}$ | $1.5 \times 10^{2}$ | $1.5 \times 10^{2}$ | $8.5 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.5 \times 10^{-1}$ | $8.5 \times 10^{-2}$ | $6.1 \times 10^{-2}$ | $1.5 \times 10^{-1}$ |
| Antimony | $7.2 \times 10^{-3}$ | $6.6 \times 10^{-2}$ | $6.6 \times 10^{-2}$ | $7.2 \times 10^{-3}$ | $4.5 \times 10^{-5}$ | $7.3 \times 10^{-3}$ | $7.2 \times 10^{-3}$ | $4.5 \times 10^{-5}$ | $7.3 \times 10^{-3}$ |
| Arsenic | $3.0 \times 10^{-2}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $3.0 \times 10^{-2}$ | $9.7 \times 10^{-5}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $9.7 \times 10^{-5}$ | $3.0 \times 10^{-2}$ |
| Cadmium | $4.6 \times 10^{-2}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $4.6 \times 10^{-2}$ | $1.0 \times 10^{-4}$ | $4.6 \times 10^{-2}$ | $4.6 \times 10^{-2}$ | $1.0 \times 10^{-4}$ | $4.6 \times 10^{-2}$ |
| Cobalt | $8.8 \times 10^{-2}$ | $9.2 \times 10^{-1}$ | $9.2 \times 10^{-1}$ | $8.8 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | $8.8 \times 10^{-2}$ | $8.8 \times 10^{-2}$ | $3.8 \times 10^{-4}$ | $8.8 \times 10^{-2}$ |
| Copper | $3.5 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $5.6 \times 10^{-1}$ | $3.5 \times 10^{-1}$ | $3.8 \times 10^{-4}$ | $3.5 \times 10^{-1}$ | $3.5 \times 10^{-1}$ | $3.8 \times 10^{-4}$ | $3.5 \times 10^{-1}$ |
| Cyanide | $4.9 \times 10^{-4}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $4.9 \times 10^{-4}$ | 0.0 | $4.9 \times 10^{-4}$ | $4.9 \times 10^{-4}$ | 0.0 | $4.9 \times 10^{-4}$ |
| Lead | $2.8 \times 10^{-1}$ | 4.3 | 4.3 | $2.8 \times 10^{-1}$ | $3.2 \times 10^{-3}$ | $2.8 \times 10^{-1}$ | $2.8 \times 10^{-1}$ | $3.2 \times 10^{-3}$ | $2.8 \times 10^{-1}$ |
| Mercury | $1.7 \times 10^{-3}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.7 \times 10^{-3}$ | $5.0 \times 10^{-6}$ | $1.8 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $5.0 \times 10^{-6}$ | $1.8 \times 10^{-3}$ |
| Methylmercury | $1.1 \times 10^{-6}$ | $2.5 \times 10^{-4}$ | $2.5 \times 10^{-4}$ | $1.1 \times 10^{-6}$ | $3.2 \times 10^{-11}$ | $1.1 \times 10^{-6}$ | $1.1 \times 10^{-6}$ | $3.2 \times 10^{-11}$ | $1.1 \times 10^{-6}$ |
| Silver | $2.7 \times 10^{-3}$ | $2.9 \times 10^{-2}$ | $2.9 \times 10^{-2}$ | $2.7 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $2.7 \times 10^{-3}$ | $2.7 \times 10^{-3}$ | $3.0 \times 10^{-5}$ | $2.7 \times 10^{-3}$ |
| Thallium | $5.3 \times 10^{-3}$ | $9.4 \times 10^{-2}$ | $9.4 \times 10^{-2}$ | $5.3 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $5.3 \times 10^{-3}$ | $5.3 \times 10^{-3}$ | $1.2 \times 10^{-5}$ | $5.3 \times 10^{-3}$ |
| Uranium | $1.2 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.6 \times 10^{-5}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.6 \times 10^{-5}$ | $1.2 \times 10^{-2}$ |
| Zinc | 1.2 | 8.1 | 8.1 | 1.2 | $5.3 \times 10^{-3}$ | 1.2 | 1.2 | $5.3 \times 10^{-3}$ | 1.2 |

NOTES:

Units — All units in mg/kg/day

— Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

**Table 5.4.1.4-13: Exposure Dose for Ecological Receptor 14 (Snowshoe Hare)**

| Contaminant of Concern | Study Area No. 1 | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases | Dose | Maximum Dose for all Project Phases | Maximum Dose for all Project Phases |
| Aluminum | $3.4 \times 10^{-2}$ | $9.6 \times 10^{2}$ | $9.6 \times 10^{2}$ | $3.4 \times 10^{-2}$ | $3.9 \times 10^{-1}$ | $4.3 \times 10^{-1}$ | $3.4 \times 10^{-2}$ | $3.9 \times 10^{-1}$ | $4.3 \times 10^{-1}$ |
| Antimony | $7.5 \times 10^{-3}$ | $6.9 \times 10^{-2}$ | $6.9 \times 10^{-2}$ | $7.5 \times 10^{-3}$ | $4.7 \times 10^{-5}$ | $7.5 \times 10^{-3}$ | $7.5 \times 10^{-3}$ | $4.7 \times 10^{-5}$ | $7.5 \times 10^{-3}$ |
| Arsenic | $2.0 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.0 \times 10^{-2}$ | $6.4 \times 10^{-5}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $6.4 \times 10^{-5}$ | $2.0 \times 10^{-2}$ |
| Cadmium | $4.0 \times 10^{-3}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $4.0 \times 10^{-3}$ | $8.7 \times 10^{-6}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $8.7 \times 10^{-6}$ | $4.0 \times 10^{-3}$ |
| Cobalt | $5.6 \times 10^{-2}$ | $5.9 \times 10^{-1}$ | $5.9 \times 10^{-1}$ | $5.6 \times 10^{-2}$ | $2.4 \times 10^{-4}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $2.4 \times 10^{-4}$ | $5.6 \times 10^{-2}$ |
| Copper | $6.5 \times 10^{-1}$ | 1.0 | 1.0 | $6.5 \times 10^{-1}$ | $6.4 \times 10^{-4}$ | $6.5 \times 10^{-1}$ | $6.5 \times 10^{-1}$ | $6.4 \times 10^{-4}$ | $6.5 \times 10^{-1}$ |
| Cyanide | $2.0 \times 10^{-4}$ | $5.4 \times 10^{-2}$ | $5.4 \times 10^{-2}$ | $2.0 \times 10^{-4}$ | 0.0 | $2.0 \times 10^{-4}$ | $2.0 \times 10^{-4}$ | 0.0 | $2.0 \times 10^{-4}$ |
| Lead | $5.8 \times 10^{-2}$ | $9.0 \times 10^{-1}$ | $9.0 \times 10^{-1}$ | $5.8 \times 10^{-2}$ | $6.8 \times 10^{-4}$ | $5.9 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $6.8 \times 10^{-4}$ | $5.9 \times 10^{-2}$ |
| Mercury | $2.3 \times 10^{-3}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $2.3 \times 10^{-3}$ | $6.6 \times 10^{-6}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $6.6 \times 10^{-6}$ | $2.3 \times 10^{-3}$ |
| Methylmercury | $4.5 \times 10^{-7}$ | $9.7 \times 10^{-5}$ | $9.7 \times 10^{-5}$ | $4.5 \times 10^{-7}$ | $1.3 \times 10^{-11}$ | $4.5 \times 10^{-7}$ | $4.5 \times 10^{-7}$ | $1.3 \times 10^{-11}$ | $4.5 \times 10^{-7}$ |
| Silver | $5.3 \times 10^{-4}$ | $5.7 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $5.3 \times 10^{-4}$ | $6.0 \times 10^{-6}$ | $5.4 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $6.0 \times 10^{-6}$ | $5.4 \times 10^{-4}$ |
| Thallium | $1.1 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $3.6 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $2.4 \times 10^{-6}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $2.4 \times 10^{-6}$ | $1.1 \times 10^{-3}$ |
| Uranium | $3.0 \times 10^{-3}$ | $4.8 \times 10^{-3}$ | $5.1 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $3.7 \times 10^{-6}$ | $3.0 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $3.7 \times 10^{-6}$ | $3.0 \times 10^{-3}$ |
| Zinc | 1.2 | 8.0 | 8.0 | 1.2 | $5.2 \times 10^{-3}$ | 1.2 | 1.2 | $5.2 \times 10^{-3}$ | 1.2 |

NOTES:

Units — All units in mg/kg/day

— — Indicates exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) did not require quantitative assessment

## 5.5 Ecological Toxicity Assessment

A toxicity assessment is performed to identify the potential adverse effects of each COC identified in Section 5.3 to the ecological receptors.

The TRVs used were those supported by the MECP as detailed in the Rationale for Soil and Groundwater Standards for Use at Contaminated Site in Ontario (MECP 2011). The MECP's approach was to protect ecological receptors from the lowest observable adverse effects levels (LOAELs) which is appropriate for protecting communities of ecological receptors however, may not provide enough protection for individuals which is required for SAR. For the protection of SAR as represented by the Little Brown Myotis, and Barn Swallow, the no observable adverse effects level (NOAEL) is employed to protect the most sensitive individuals. The NOAELs were retrieved from the same toxicity studies reviewed and supported by the MECP and applied herein in addition to the LOAEL.

The LOAEL TRVs were predominantly obtained from the MECP which were sourced from:

- CCME Protocol for the Derivation of Environmental and Human Health Soil Quality Guidelines" (CCME 1996);
- Oak Ridge National Laboratory Toxicity Benchmarks for Wildlife (Sample et al. 1996); and
- US EPA Ecological Soil Screening Level (Eco-SSL) documents.

The NOAEL TRVs were obtained from:

- Oak Ridge National Laboratory Toxicity Benchmarks for Wildlife (Sample et al. 1996); and
- US EPA Ecological Soil Screening Level (Eco-SSL) documents.

The preferred endpoints for TRVs are based on reproduction and developmental toxicity, reduced survival, and reduced growth, however for some contaminants, limitations in available data necessitated the use of other endpoints, or did not allow for the selection of a TRV.

Toxicity reference values used in the evaluation of risks to birds and mammals are based on an acceptable exposure dose (expressed at mg/kg/day) as opposed to a soil concentration. TRVs for birds and mammals are developed through the use of toxicity studies that commonly assess growth, reproduction and mortality. Wildlife TRVs are both receptor and contaminant specific.

Developing site-specific TRVs for the Goliath Gold Project is outside the scope of the initial ERA, however may be considered as part of a Follow-Up Program if required. The TRVs selected herein were based on the NOAELs and LOAELs, to ensure both the individual species (including SAR) and population levels are both protected, respectively.

While it may be preferential to employ a TRV based on an effect level considered to represent minimal to low effects (e.g., EC25) such TRVs are not currently provided with the published TRV for birds and mammals from these sources.

The toxicity reference values for mammals and birds are presented in Table 5.5-1 and Table 5.5-2, respectively.

**Table 5.5-1: Toxicity Reference Values for Mammals**

| Contaminant of Concern | NOAEL (mg/kg/day) | LOAEL (mg/kg/day) | Endpoint and Reference |
|---|---|---|---|
| Aluminum | 1.93 | 19.3 | Reproduction (Sample et al. 1996) |
| Antimony | 0.125 | 1.25 | Longevity (Sample et al. 1996) |
| Arsenic | 0.13 | 1.3 | Reproduction (Sample et al. 1996) |
| Cobalt | 7.33 | 8.8 | Body weight loss (US EPA Eco-SSLs, 2005) |
| Copper | 11.7 | 15.14 | Reproduction (Sample et al. 1996) |
| Cyanide | 69 | 69 | Reproduction (Sample et al. 1996) |
| Lead | 8 | 80 | Reproduction (Sample et al. 1996) |
| Mercury | 1 | 1 | Reproduction (Sample et al. 1996) |
| Methylmercury | 0.032 | 0.16 | Reproduction (Sample et al. 1996) |
| Silver | 6.02 | 60.2 | Body weight loss (US EPA Eco-SSLs, 2006) |
| Thallium | 0.0074 | 0.074 | Reproduction (Sample et al. 1996) |
| Uranium | — | — | NV |
| Zinc | 160 | 320 | Reproduction (Sample et al. 1996) |

**Table 5.5-2: Toxicity reference Values for Birds**

| Contaminant of Concern | NOAEL (mg/kg/day) | LOAEL (mg/kg/day) | Endpoint and Reference |
|---|---|---|---|
| Aluminum | 109.7 | 109.7 | Reproduction (Sample et al. 1996) |
| Antimony | — | — | NV |
| Arsenic | 2.46 | 7.4 | Reproduction (Sample et al. 1996) |
| Cobalt | 7.61 | 7.8 | Body weight loss (US EPA Eco-SSLs, 2005) |
| Copper | 47 | 62 | Growth/Mortality (Sample et al. 1996) |
| Cyanide | — | 0.21 | Mortality (CCME 1996) |
| Lead | 1.63 | 3.3 | NOAEL: Reproduction (US EPA Eco SSL, 2005)<br>LOAEL: Reproduction (Sample et al. 1996) |
| Mercury | 0.45 | 0.9 | Reproduction (Sample et al. 1996) |
| Methylmercury | 0.0064 | 0.064 | Reproduction (Sample et al. 1996) |
| Silver | 2.02 | 20.2 | Body weight loss (US EPA Eco-SSLs, 2006) |
| Thallium | — | — | NV |
| Uranium | — | — | NV |
| Zinc | 14.5 | 131 | Reproduction (Sample et al. 1996) |

## 5.6 Ecological Risk Characterization

### 5.6.1 Qualitative Risk Characterization

#### 5.6.1.1 Qualitative Evaluation for Amphibian and Reptiles

Due to a lack of exposure and toxicity information to support the evaluation of risks for amphibians and turtles, a quantitative assessment cannot be completed. Terrestrial turtles and amphibians have the potential to be exposed to COCs in TSF supernatant water and waste rock through the same exposure pathways as birds and mammals. As potential risks (i.e., HQ>1) were identified for birds and mammals, potential risks for terrestrial turtles and amphibians may not be ruled out at this time.

In terms of aquatic amphibians and reptiles, the TSF supernatant water does not represent aquatic habitat. Aquatic amphibians and reptiles have the potential to be exposed to surface water in the Pit-lake. While aquatic receptors would not be anticipated in the pit-lake, over time there is the possibility that aquatic biota may be introduced during the Post-Closure phase of the Project without knowledge of the introduction by Treasury Metals. Treasury Metals has committed to batch treating the pit-lake to ensure ecological receptors are appropriately protected. As such no potential risk to amphibians and retiles is anticipated via exposure to the pit-lake.

### 5.6.2 Quantitative Risk Characterization

#### 5.6.2.1 Ecological Risk Characterization

Characterization of risk to ecological receptors in an ERA can employ qualitative or quantitative methods. The ecological hazard quotient (EHQ or HQ) is a simple approach that provides a quantitative estimate of overall risk. The HQ is a unitless value defined as the ratio of the magnitude of exposure to magnitude of a standard effect:

$$Hazard\ \ Quotient\ = \frac{Exposure\ \ Estimate}{Benchmark}$$

Exposure ratios are interpreted as follows: if the HQ is less than one, no unacceptable risks to ecological receptors would be expected, because concentrations are below levels known to cause adverse effects. Conversely, if the HQ exceeds one, it may be inferred that adverse effects to individuals are possible. Given a certain magnitude and type of effect associated with a particular benchmark, TRV or assessment endpoint, inferences about potential effects can be made. For example, if the level of exposure exceeds a benchmark or TRV based on a 25% reduction in a growth-based endpoint (HQ >1), it can be inferred that one possible outcome may be diminished growth of individuals, potentially (but not necessarily) leading to a reduction in population abundance of that receptor. It is important to note that exceeding an HQ of one does not necessarily mean adverse effects will occur; rather, it suggests that there is less confidence that an adverse effect will not occur. For a variety of reasons, adverse effects demonstrated in laboratory studies often fail to manifest in the field as a measurable or meaningful impact. It is also important to recognize that the magnitude of HQs is not directly associated with the magnitude of potential effects. That is, a large HQ (>10) should not be interpreted as a 10-fold greater risk than an HQ of one.

### 5.6.2.2 Definition of Residual Adverse Effects for Ecological Receptors

Residual adverse effects for ecological receptors are identified based on the estimated potential risk value via the sum of all operable exposure pathways. For ecological receptors a residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable risk benchmark (i.e. >1) and the estimated potential risk for the Base Case Assessment Scenario. In those cases where the potential risk via the sum of all operable exposure pathways is less than base, then the residual effect would not be adverse. The evaluation of residual adverse effects has focused on the Project Assessment Scenario recognizing that ecological receptors cannot be exposed to the Project Alone Assessment Scenario under real world conditions. In keeping with the EIS Guidelines for the Goliath Gold Project, the estimated potential risk via the sum of all operable exposure pathways is based upon the predictions that incorporate the mitigation measures described in the revised EIS (April 2018). In keeping with risk assessment methodology, the residual adverse effects for have been identified in the absence of risk management measures, however the implementation of monitoring programs for migratory birds, species at risk, and wildlife are already described in the Follow-Up Program to verify the prediction made in the revised EIS (April 2018), and would be relied upon for confirming the results presented herein. The current ecological risk assessment guidance in Canada is provided by the CCME and recent Federal Contaminated Sites Action Plan and states that more than one line of evidence is required to support the conclusions of an ERA. Thus, the monitoring programs described as part of the Follow-Up Programs are required in addition to the results presented herein to confirm the presence of potential risk to ecological receptors including residual adverse effects.

### 5.6.2.3 Risk Estimates for Ecological Receptors

The Ecological Hazard Quotients for the Base Case, Project Alone, and Project Assessment Scenarios, all Project phases, and the three Study Areas, are provided in the tables below for each of the 14 mammals or birds evaluated.

The results indicate that within Study Area No. 1 potential risk may be identified to mammals and birds as a result of the Project and specifically exposure to Project-specific media including waste rock and TSF supernatant water. Although the supplemental screening dedicated that only lead and zinc in waste rock were a concern for mammals and birds, residual adverse effects were identified in the Operations Area for aluminum, antimony, arsenic, lead, thallium, and zinc to one or more mammal and bird species via the sum of all exposure pathways. However, the ERA was completed under the conservative assumption that the terrestrial and aquatic environment within the Operations Area would have suitable habitat for these receptors and their food sources, and that these receptors would spend 100% of their time within the Study Area. During the active phases of the Project (i.e., Site Preparation and Construction, Operations, and Closure) access to the Operations Area will be restricted to medium and large mammals, and most of the Operations Area will be stripped to bedrock and subject to extensive heavy equipment use therefore nearly eliminating suitable habitat. The effects of the Project on habitat and changes in access is assessed in Section 6 of the EIS (April 2018). Areas where access will be affected as a result of Operations is shown on Figure 3.5.2.4-3. As such, the potential health effects on mammals and birds as a result of the Project are expected to be much lower than predicted herein. Additional risk management measures including fencing, and bird deterrent flags will serve as mitigation measures to effectively reduce exposure and subsequently potential risk. With the presence of RMM, and the activities at the Site, an adverse impact on birds and mammals from waste rock and TSF supernatant water is not anticipated. The Follow-Up

Programs provided in the Final Goliath Gold Follow-Up Program Addendum for migratory birds, species at risk, and wildlife will be relied upon to confirm the predictions herein with respect to the predicted effects on ecological receptors via exposure to these chemicals. At this time, no potential risk to mammals and birds via exposure to chemicals in Project-Specific media within the Operations Area is anticipated.

Where ecological hazard quotients exceeded CCME targets in Study Areas No. 2 and 3 in the Project Alone and Project Assessment Scenarios, they were also exceeded in the Base Case Assessment Scenario suggesting that the Goliath Gold Project is not having a meaningful effect on ecological receptors on those locations. No residual adverse effects were identified to any of the 14 ecological receptors including those that may be considered country food items to members of Indigenous communities who may use Study Areas 2 and 3 for traditional land and resource use.

The ERA was conducted based on a single line of evidence approach and, in most cases, modelled or predicted data. A Follow-Up Program is described in the Final Goliath Gold Follow-Up Program Addendum for ecological receptors to confirm the potential effects of the Project. In addition to those previously described Follow-Up Programs, the Follow Up Program for Ecological Risk Assessment (if required) would include site-specific sampling to confirm chemical concentrations in the lower tropic level media (i.e., plants and invertebrates) at a minimum. Site-specific uptake factors should be calculated and used in predicting the chemical concentrations for later phases of the Project. Finally, a Follow-Up Program for ecological receptors should include consideration of the results from the Follow-Up Programs described for the terrestrial and aquatic environment, and a multiple lines of evidence approach incorporated into a Follow-Up ERA if required.

**Table 5.6.2.3-1: Potential Risk for Ecological Receptor 1 (Meadow Vole)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $6.8 \times 10^{-3}$ | **7.0** | **7.0** | $6.0 \times 10^{-2}$ | $6.8 \times 10^{-3}$ | $9.7 \times 10^{-3}$ | $9.7 \times 10^{-3}$ | $6.8 \times 10^{-3}$ | $9.7 \times 10^{-3}$ |
| Antimony | $1.5 \times 10^{-3}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ |
| Arsenic | $5.5 \times 10^{-3}$ | $3.2 \times 10^{-2}$ | $3.2 \times 10^{-2}$ | $5.7 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.5 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $2.4 \times 10^{-3}$ | $2.5 \times 10^{-2}$ | $2.5 \times 10^{-2}$ | $2.6 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ |
| Copper | $8.3 \times 10^{-3}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $8.5 \times 10^{-3}$ | $8.3 \times 10^{-3}$ | $8.3 \times 10^{-3}$ | $8.3 \times 10^{-3}$ | $8.3 \times 10^{-3}$ | $8.3 \times 10^{-3}$ |
| Cyanide | $1.1 \times 10^{-5}$ | $3.0 \times 10^{-3}$ | $3.0 \times 10^{-3}$ | $6.3 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ |
| Lead | $2.3 \times 10^{-4}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $2.8 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.4 \times 10^{-4}$ | $2.3 \times 10^{-4}$ | $2.3 \times 10^{-4}$ |
| Mercury | $3.4 \times 10^{-4}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $3.5 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ |
| Methylmercury | $1.1 \times 10^{-5}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.6 \times 10^{-6}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ |
| Silver | $5.7 \times 10^{-6}$ | $5.5 \times 10^{-5}$ | $5.5 \times 10^{-5}$ | $6.5 \times 10^{-6}$ | $5.7 \times 10^{-6}$ | $5.8 \times 10^{-6}$ | $5.8 \times 10^{-6}$ | $5.7 \times 10^{-6}$ | $5.8 \times 10^{-6}$ |
| Thallium | $7.9 \times 10^{-3}$ | **1.8** | **1.8** | $7.2 \times 10^{-3}$ | $7.9 \times 10^{-3}$ | $7.9 \times 10^{-3}$ | $7.9 \times 10^{-3}$ | $7.9 \times 10^{-3}$ | $7.9 \times 10^{-3}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $8.5 \times 10^{-4}$ | $5.6 \times 10^{-3}$ | $5.6 \times 10^{-3}$ | $9.3 \times 10^{-4}$ | $8.5 \times 10^{-4}$ | $8.5 \times 10^{-4}$ | $8.5 \times 10^{-4}$ | $8.5 \times 10^{-4}$ | $8.5 \times 10^{-4}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds risk benchmark |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-2: Potential Risk for Ecological Receptor 2 (Moose)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $2.1 \times 10^{-1}$ | **$1.4 \times 10^{1}$** | **$1.4 \times 10^{1}$** | $3.2 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ | $2.1 \times 10^{-1}$ |
| Antimony | $2.6 \times 10^{-3}$ | $1.4 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $2.8 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ | $2.6 \times 10^{-3}$ |
| Arsenic | $2.9 \times 10^{-3}$ | $1.5 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $3.0 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $2.9 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $2.0 \times 10^{-2}$ | $9.8 \times 10^{-3}$ | $2.9 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.0 \times 10^{-2}$ |
| Copper | $1.4 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ |
| Cyanide | $3.4 \times 10^{-4}$ | $7.2 \times 10^{-4}$ | $1.1 \times 10^{-3}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.4 \times 10^{-4}$ |
| Lead | $4.8 \times 10^{-4}$ | $2.1 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $5.3 \times 10^{-4}$ | $4.8 \times 10^{-4}$ | $4.8 \times 10^{-4}$ | $5.0 \times 10^{-4}$ | $4.8 \times 10^{-4}$ | $4.8 \times 10^{-4}$ |
| Mercury | $1.1 \times 10^{-3}$ | $4.6 \times 10^{-3}$ | $5.1 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |
| Methylmercury | $3.3 \times 10^{-4}$ | $5.6 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ | $3.3 \times 10^{-4}$ |
| Silver | $2.3 \times 10^{-5}$ | $8.6 \times 10^{-6}$ | $3.1 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $2.3 \times 10^{-5}$ | $2.3 \times 10^{-5}$ |
| Thallium | $5.6 \times 10^{-2}$ | $4.4 \times 10^{-1}$ | $4.9 \times 10^{-1}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ | $5.6 \times 10^{-2}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $1.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ | $1.1 \times 10^{-3}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds risk benchmark |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-3: Potential Risk for Ecological Receptor 3 (Common Shrew)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $5.5 \times 10^{-3}$ | **$2.8 \times 10^{1}$** | **$2.8 \times 10^{1}$** | $2.3 \times 10^{-1}$ | $1.1 \times 10^{-2}$ | $1.7 \times 10^{-2}$ | $1.7 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.7 \times 10^{-2}$ |
| Antimony | $1.3 \times 10^{-1}$ | **1.2** | **1.2** | $1.5 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Arsenic | $2.3 \times 10^{-1}$ | **1.4** | **1.4** | $2.5 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.4 \times 10^{-1}$ | $2.4 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.4 \times 10^{-1}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $6.0 \times 10^{-2}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.5 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ | $6.0 \times 10^{-2}$ |
| Copper | $4.1 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $6.6 \times 10^{-1}$ | $4.2 \times 10^{-1}$ | $4.1 \times 10^{-1}$ | $4.1 \times 10^{-1}$ | $4.1 \times 10^{-1}$ | $4.1 \times 10^{-1}$ | $4.1 \times 10^{-1}$ |
| Cyanide | $8.9 \times 10^{-6}$ | $2.5 \times 10^{-3}$ | $2.5 \times 10^{-3}$ | $5.1 \times 10^{-6}$ | $8.9 \times 10^{-6}$ | $8.9 \times 10^{-6}$ | $8.9 \times 10^{-6}$ | $8.9 \times 10^{-6}$ | $8.9 \times 10^{-6}$ |
| Lead | $1.3 \times 10^{-1}$ | **2.0** | **2.0** | $1.5 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.3 \times 10^{-1}$ |
| Mercury | $6.7 \times 10^{-2}$ | $4.7 \times 10^{-1}$ | $4.7 \times 10^{-1}$ | $7.1 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ |
| Methylmercury | $8.8 \times 10^{-6}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $2.1 \times 10^{-6}$ | $8.8 \times 10^{-6}$ | $8.8 \times 10^{-6}$ | $8.8 \times 10^{-6}$ | $8.8 \times 10^{-6}$ | $8.8 \times 10^{-6}$ |
| Silver | $1.3 \times 10^{-3}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ |
| Thallium | **2.3** | **4.2** | **4.2** | **2.4** | **2.3** | 2.3 | **2.3** | **2.3** | 2.3 |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $9.8 \times 10^{-2}$ | $6.5 \times 10^{-1}$ | $6.5 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $9.8 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.9 \times 10^{-2}$ | $9.8 \times 10^{-2}$ | $9.9 \times 10^{-2}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds risk benchmark |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-4: Potential Risk for Ecological Receptor 4 (Little Brown Myotis)***

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | 0.0 | **1.5** × $10^{2}$ | **1.5** × $10^{2}$ | **1.2** | 6.2 × $10^{-2}$ | 6.2 × $10^{-2}$ | 6.2 × $10^{-2}$ | 6.2 × $10^{-2}$ | 6.2 × $10^{-2}$ |
| Antimony | **1.3** | **1.3** × $10^{1}$ | **1.3** × $10^{1}$ | **1.5** | **1.3** | 1.3 | **1.3** | **1.3** | 1.3 |
| Arsenic | **2.2** | **1.3** × $10^{1}$ | **1.3** × $10^{1}$ | **2.4** | **2.2** | 2.2 | **2.2** | **2.2** | 2.2 |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | 6.3 × $10^{-2}$ | 6.6 × $10^{-1}$ | 6.6 × $10^{-1}$ | 6.8 × $10^{-2}$ | 6.3 × $10^{-2}$ | 6.3 × $10^{-2}$ | 6.3 × $10^{-2}$ | 6.3 × $10^{-2}$ | 6.3 × $10^{-2}$ |
| Copper | 5.3 × $10^{-1}$ | 8.4 × $10^{-1}$ | 8.4 × $10^{-1}$ | 5.4 × $10^{-1}$ | 5.3 × $10^{-1}$ | 5.3 × $10^{-1}$ | 5.3 × $10^{-1}$ | 5.3 × $10^{-1}$ | 5.3 × $10^{-1}$ |
| Cyanide | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead | **1.3** | **2.0** × $10^{1}$ | **2.0** × $10^{1}$ | **1.6** | **1.3** | 1.3 | **1.3** | **1.3** | 1.3 |
| Mercury | 6.8 × $10^{-2}$ | 4.8 × $10^{-1}$ | 4.8 × $10^{-1}$ | 7.2 × $10^{-2}$ | 6.8 × $10^{-2}$ | 6.9 × $10^{-2}$ | 6.9 × $10^{-2}$ | 6.8 × $10^{-2}$ | 6.9 × $10^{-2}$ |
| Methylmercury | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silver | 1.3 × $10^{-2}$ | 1.4 × $10^{-1}$ | 1.4 × $10^{-1}$ | 1.6 × $10^{-2}$ | 1.3 × $10^{-2}$ | 1.3 × $10^{-2}$ | 1.3 × $10^{-2}$ | 1.3 × $10^{-2}$ | 1.3 × $10^{-2}$ |
| Thallium | **2.3** × $10^{1}$ | **2.7** × $10^{1}$ | **2.7** × $10^{1}$ | **2.4** × $10^{1}$ | **2.3** × $10^{1}$ | 2.3 × $10^{1}$ | **2.3** × $10^{1}$ | **2.3** × $10^{1}$ | 2.3 × $10^{1}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | 2.0 × $10^{-1}$ | **1.3** | **1.3** | 2.2 × $10^{-1}$ | 2.0 × $10^{-1}$ | 2.0 × $10^{-1}$ | 2.0 × $10^{-1}$ | 2.0 × $10^{-1}$ | 2.0 × $10^{-1}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds risk benchmark |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-5: Potential Risk for Ecological Receptor 5 (Red Fox)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $2.9 \times 10^{-3}$ | $9.0 \times 10^{-1}$ | $9.0 \times 10^{-1}$ | $8.6 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $2.9 \times 10^{-3}$ | $3.3 \times 10^{-3}$ |
| Antimony | $6.1 \times 10^{-4}$ | $4.5 \times 10^{-3}$ | $4.5 \times 10^{-3}$ | $6.0 \times 10^{-4}$ | $6.1 \times 10^{-4}$ | $6.1 \times 10^{-4}$ | $6.1 \times 10^{-4}$ | $6.1 \times 10^{-4}$ | $6.1 \times 10^{-4}$ |
| Arsenic | $2.0 \times 10^{-3}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $8.3 \times 10^{-4}$ | $8.6 \times 10^{-3}$ | $8.6 \times 10^{-3}$ | $8.9 \times 10^{-4}$ | $8.3 \times 10^{-4}$ | $8.3 \times 10^{-4}$ | $8.3 \times 10^{-4}$ | $8.3 \times 10^{-4}$ | $8.3 \times 10^{-4}$ |
| Copper | $2.0 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $3.3 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ |
| Cyanide | $4.7 \times 10^{-6}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $2.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ |
| Lead | $2.7 \times 10^{-4}$ | $4.2 \times 10^{-3}$ | $4.2 \times 10^{-3}$ | $3.2 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $2.7 \times 10^{-4}$ |
| Mercury | $1.5 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ | $1.5 \times 10^{-4}$ |
| Methylmercury | $4.7 \times 10^{-6}$ | $1.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $1.1 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ | $4.7 \times 10^{-6}$ |
| Silver | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-5}$ | $3.5 \times 10^{-5}$ | $4.0 \times 10^{-6}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-6}$ | $3.5 \times 10^{-6}$ |
| Thallium | $6.2 \times 10^{-3}$ | $7.9 \times 10^{-1}$ | $7.9 \times 10^{-1}$ | $6.0 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.2 \times 10^{-3}$ | $6.1 \times 10^{-3}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $6.5 \times 10^{-4}$ | $4.3 \times 10^{-3}$ | $4.3 \times 10^{-3}$ | $7.1 \times 10^{-4}$ | $6.5 \times 10^{-4}$ | $6.5 \times 10^{-4}$ | $6.5 \times 10^{-4}$ | $6.5 \times 10^{-4}$ | $3.0 \times 10^{-4}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-6: Potential Risk for Ecological Receptor 6 (Deer Mouse)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $6.1 \times 10^{-3}$ | **2.4** | **2.4** | $2.2 \times 10^{-2}$ | $6.1 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $7.1 \times 10^{-3}$ | $6.1 \times 10^{-3}$ | $7.1 \times 10^{-3}$ |
| Antimony | $1.6 \times 10^{-3}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ |
| Arsenic | $4.0 \times 10^{-3}$ | $2.4 \times 10^{-2}$ | $2.4 \times 10^{-2}$ | $4.1 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $1.4 \times 10^{-3}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ |
| Copper | $5.4 \times 10^{-3}$ | $8.7 \times 10^{-3}$ | $8.7 \times 10^{-3}$ | $5.5 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $5.4 \times 10^{-3}$ |
| Cyanide | $1.0 \times 10^{-5}$ | $2.8 \times 10^{-3}$ | $2.8 \times 10^{-3}$ | $5.7 \times 10^{-6}$ | $1.0 \times 10^{-5}$ | $1.0 \times 10^{-5}$ | $1.0 \times 10^{-5}$ | $1.0 \times 10^{-5}$ | $1.0 \times 10^{-5}$ |
| Lead | $8.9 \times 10^{-4}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.1 \times 10^{-3}$ | $8.9 \times 10^{-4}$ | $9.0 \times 10^{-4}$ | $9.0 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $9.0 \times 10^{-4}$ |
| Mercury | $5.3 \times 10^{-4}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $5.5 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $5.3 \times 10^{-4}$ | $5.3 \times 10^{-4}$ |
| Methylmercury | $9.8 \times 10^{-6}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.4 \times 10^{-6}$ | $9.8 \times 10^{-6}$ | $9.8 \times 10^{-6}$ | $9.8 \times 10^{-6}$ | $9.8 \times 10^{-6}$ | $9.8 \times 10^{-6}$ |
| Silver | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-4}$ | $1.1 \times 10^{-4}$ | $1.3 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $1.1 \times 10^{-5}$ |
| Thallium | $1.8 \times 10^{-2}$ | **1.7** | **1.7** | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $9.1 \times 10^{-4}$ | $6.0 \times 10^{-3}$ | $6.0 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $9.1 \times 10^{-4}$ | $9.2 \times 10^{-4}$ | $9.2 \times 10^{-4}$ | $9.1 \times 10^{-4}$ | $9.2 \times 10^{-4}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-7: Potential Risk for Ecological Receptor 7 (Short Tailed Weasel)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $4.2 \times 10^{-3}$ | **2.8** | **2.8** | $2.5 \times 10^{-2}$ | $4.2 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $5.4 \times 10^{-3}$ | $4.2 \times 10^{-3}$ | $5.1 \times 10^{-3}$ |
| Antimony | $3.4 \times 10^{-3}$ | $3.0 \times 10^{-2}$ | $3.0 \times 10^{-2}$ | $3.7 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.3 \times 10^{-3}$ |
| Arsenic | $1.0 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $5.8 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $9.6 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $3.7 \times 10^{-3}$ | $3.9 \times 10^{-2}$ | $3.9 \times 10^{-2}$ | $4.0 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.7 \times 10^{-3}$ | $3.7 \times 10^{-3}$ |
| Copper | $1.3 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $2.1 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.0 \times 10^{-2}$ |
| Cyanide | $6.9 \times 10^{-6}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $4.0 \times 10^{-6}$ | $6.9 \times 10^{-6}$ | $6.9 \times 10^{-6}$ | $6.9 \times 10^{-6}$ | $6.9 \times 10^{-6}$ | $6.8 \times 10^{-6}$ |
| Lead | $2.4 \times 10^{-3}$ | $3.8 \times 10^{-2}$ | $3.8 \times 10^{-2}$ | $3.0 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ |
| Mercury | $1.3 \times 10^{-3}$ | $9.3 \times 10^{-3}$ | $9.3 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $1.2 \times 10^{-3}$ |
| Methylmercury | $6.7 \times 10^{-6}$ | $1.5 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.6 \times 10^{-6}$ | $6.7 \times 10^{-6}$ | $6.7 \times 10^{-6}$ | $6.7 \times 10^{-6}$ | $6.7 \times 10^{-6}$ | $6.7 \times 10^{-6}$ |
| Silver | $2.8 \times 10^{-5}$ | $2.9 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $3.3 \times 10^{-5}$ | $2.8 \times 10^{-5}$ | $2.8 \times 10^{-5}$ | $2.8 \times 10^{-5}$ | $2.8 \times 10^{-5}$ | $2.7 \times 10^{-5}$ |
| Thallium | $4.7 \times 10^{-2}$ | **1.2** | **1.2** | $4.9 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.8 \times 10^{-2}$ | $4.8 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $9.7 \times 10^{-3}$ | $6.4 \times 10^{-2}$ | $6.4 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $9.7 \times 10^{-3}$ | $9.7 \times 10^{-3}$ | $9.7 \times 10^{-3}$ | $9.7 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-8: Potential Risk for Ecological Receptor 8 (Ruffed Grouse)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $4.1 \times 10^{-4}$ | **5.5** | **5.5** | $4.5 \times 10^{-2}$ | $2.3 \times 10^{-3}$ | $2.7 \times 10^{-3}$ | $2.7 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.7 \times 10^{-3}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $2.3 \times 10^{-3}$ | $1.3 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $2.4 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $4.4 \times 10^{-3}$ | $4.7 \times 10^{-2}$ | $4.7 \times 10^{-2}$ | $4.8 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $4.4 \times 10^{-3}$ | $4.4 \times 10^{-3}$ |
| Copper | $9.4 \times 10^{-3}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $9.6 \times 10^{-3}$ | $9.4 \times 10^{-3}$ | $9.4 \times 10^{-3}$ | $9.4 \times 10^{-3}$ | $9.4 \times 10^{-3}$ | $9.4 \times 10^{-3}$ |
| Cyanide | $1.2 \times 10^{-3}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $7.1 \times 10^{-4}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $1.2 \times 10^{-3}$ |
| Lead | $9.3 \times 10^{-2}$ | **1.4** | **1.4** | $1.1 \times 10^{-1}$ | $9.3 \times 10^{-2}$ | $9.4 \times 10^{-2}$ | $9.4 \times 10^{-2}$ | $9.3 \times 10^{-2}$ | $9.4 \times 10^{-2}$ |
| Mercury | $3.6 \times 10^{-3}$ | $2.6 \times 10^{-2}$ | $2.6 \times 10^{-2}$ | $3.8 \times 10^{-3}$ | $3.6 \times 10^{-3}$ | $3.6 \times 10^{-3}$ | $3.6 \times 10^{-3}$ | $3.6 \times 10^{-3}$ | $3.6 \times 10^{-3}$ |
| Methylmercury | $9.3 \times 10^{-6}$ | $2.0 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.2 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $9.3 \times 10^{-6}$ | $9.3 \times 10^{-6}$ |
| Silver | $1.3 \times 10^{-4}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.5 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $1.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $8.2 \times 10^{-2}$ | $1.3 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-9: Potential Risk for Ecological Receptor 9 (Mallard Duck)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $2.3 \times 10^{-1}$ | $3.7 \times 10^{-1}$ | $6.0 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ | $2.3 \times 10^{-1}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $3.4 \times 10^{-3}$ | $1.8 \times 10^{-2}$ | $1.8 \times 10^{-2}$ | $3.6 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $3.4 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $1.4 \times 10^{-1}$ | $5.8 \times 10^{-2}$ | $1.9 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.3 \times 10^{-1}$ | $1.4 \times 10^{-1}$ | $1.4 \times 10^{-1}$ |
| Copper | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ | $1.2 \times 10^{-2}$ |
| Cyanide | $6.9 \times 10^{-1}$ | $2.6 \times 10^{-1}$ | $9.5 \times 10^{-1}$ | $6.9 \times 10^{-1}$ | $6.9 \times 10^{-1}$ | $6.9 \times 10^{-1}$ | $6.9 \times 10^{-1}$ | $6.9 \times 10^{-1}$ | $6.9 \times 10^{-1}$ |
| Lead | $2.7 \times 10^{-1}$ | **3.3** | **3.4** | $3.2 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ |
| Mercury | $8.5 \times 10^{-3}$ | $3.6 \times 10^{-2}$ | $4.0 \times 10^{-2}$ | $8.8 \times 10^{-3}$ | $8.5 \times 10^{-3}$ | $8.5 \times 10^{-3}$ | $8.5 \times 10^{-3}$ | $8.5 \times 10^{-3}$ | $8.5 \times 10^{-3}$ |
| Methylmercury | $5.2 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $6.7 \times 10^{-3}$ | $5.2 \times 10^{-3}$ | $5.2 \times 10^{-3}$ | $5.2 \times 10^{-3}$ | $5.2 \times 10^{-3}$ | $5.2 \times 10^{-3}$ | $5.2 \times 10^{-3}$ |
| Silver | $6.9 \times 10^{-4}$ | $3.0 \times 10^{-3}$ | $3.4 \times 10^{-3}$ | $7.5 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | $6.9 \times 10^{-4}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $1.9 \times 10^{-2}$ | $1.1 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $2.1 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $1.9 \times 10^{-2}$ | $1.9 \times 10^{-2}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-9: Potential Risk for Ecological Receptor 10 (Barn Swallow)***

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $1.2 \times 10^{-3}$ | **2.9** | **2.9** | $2.4 \times 10^{-2}$ | $1.2 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $1.2 \times 10^{-3}$ | $2.4 \times 10^{-3}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $9.8 \times 10^{-2}$ | $5.7 \times 10^{-1}$ | $5.7 \times 10^{-1}$ | $1.0 \times 10^{-1}$ | $9.8 \times 10^{-2}$ | $9.8 \times 10^{-2}$ | $9.8 \times 10^{-2}$ | $9.8 \times 10^{-2}$ | $9.8 \times 10^{-2}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $5.5 \times 10^{-2}$ | $5.8 \times 10^{-1}$ | $5.8 \times 10^{-1}$ | $5.9 \times 10^{-2}$ | $5.5 \times 10^{-2}$ | $5.5 \times 10^{-2}$ | $5.5 \times 10^{-2}$ | $5.5 \times 10^{-2}$ | $5.5 \times 10^{-2}$ |
| Copper | $1.0 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.7 \times 10^{-1}$ | $1.1 \times 10^{-1}$ | $1.0 \times 10^{-1}$ | $1.0 \times 10^{-1}$ | $1.0 \times 10^{-1}$ | $1.0 \times 10^{-1}$ | $1.0 \times 10^{-1}$ |
| Cyanide | — | — | — | — | — | — | — | — | — |
| Lead | **5.0** | **7.7** $\times 10^{1}$ | **7.7** $\times 10^{1}$ | **6.1** | **5.0** | 5.0 | **5.0** | **5.0** | 5.0 |
| Mercury | $1.2 \times 10^{-1}$ | $8.3 \times 10^{-1}$ | $8.3 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ |
| Methylmercury | $2.8 \times 10^{-4}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $6.9 \times 10^{-5}$ | $2.8 \times 10^{-4}$ | $2.8 \times 10^{-4}$ | $2.8 \times 10^{-4}$ | $2.8 \times 10^{-4}$ | $2.8 \times 10^{-4}$ |
| Silver | $3.1 \times 10^{-2}$ | $3.4 \times 10^{-1}$ | $3.4 \times 10^{-1}$ | $3.8 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ | $3.1 \times 10^{-2}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | **1.7** | **1.1** $\times 10^{1}$ | **1.1** $\times 10^{1}$ | **1.9** | **1.7** | 1.7 | **1.7** | **1.7** | 1.7 |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-11: Potential Risk for Ecological Receptor 11 (Red-tailed Hawk)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $3.2 \times 10^{-4}$ | $9.4 \times 10^{-2}$ | $9.5 \times 10^{-2}$ | $9.0 \times 10^{-4}$ | $3.2 \times 10^{-4}$ | $3.6 \times 10^{-4}$ | $3.6 \times 10^{-4}$ | $3.2 \times 10^{-4}$ | $3.6 \times 10^{-4}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $2.9 \times 10^{-4}$ | $1.7 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $3.0 \times 10^{-4}$ | $2.9 \times 10^{-4}$ | $2.9 \times 10^{-4}$ | $2.9 \times 10^{-4}$ | $2.9 \times 10^{-4}$ | $2.9 \times 10^{-4}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $8.9 \times 10^{-4}$ | $9.2 \times 10^{-3}$ | $9.2 \times 10^{-3}$ | $9.6 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $8.9 \times 10^{-4}$ | $8.9 \times 10^{-4}$ |
| Copper | $2.6 \times 10^{-4}$ | $4.3 \times 10^{-4}$ | $4.3 \times 10^{-4}$ | $2.7 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $2.6 \times 10^{-4}$ | $2.4 \times 10^{-4}$ |
| Cyanide | $9.9 \times 10^{-4}$ | $2.7 \times 10^{-1}$ | $2.7 \times 10^{-1}$ | $5.6 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $9.9 \times 10^{-4}$ |
| Lead | $1.7 \times 10^{-3}$ | $2.8 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.1 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $1.8 \times 10^{-3}$ |
| Mercury | $3.4 \times 10^{-5}$ | $3.2 \times 10^{-4}$ | $3.2 \times 10^{-4}$ | $3.2 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $3.4 \times 10^{-5}$ | $3.1 \times 10^{-5}$ |
| Methylmercury | $7.4 \times 10^{-6}$ | $1.6 \times 10^{-3}$ | $1.6 \times 10^{-3}$ | $1.8 \times 10^{-6}$ | $7.4 \times 10^{-6}$ | $7.4 \times 10^{-6}$ | $7.4 \times 10^{-6}$ | $7.4 \times 10^{-6}$ | $7.4 \times 10^{-6}$ |
| Silver | $4.2 \times 10^{-6}$ | $3.9 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $4.6 \times 10^{-6}$ | $4.2 \times 10^{-6}$ | $4.2 \times 10^{-6}$ | $4.2 \times 10^{-6}$ | $4.2 \times 10^{-6}$ | $4.1 \times 10^{-6}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $9.6 \times 10^{-4}$ | $6.3 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $9.6 \times 10^{-4}$ | $9.6 \times 10^{-4}$ | $9.6 \times 10^{-4}$ | $9.6 \times 10^{-4}$ | $3.2 \times 10^{-4}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds risk benchmark |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-12: Potential Risk for Ecological Receptor 12 (Bald Eagle)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $2.0 \times 10^{-3}$ | $9.6 \times 10^{-2}$ | $9.8 \times 10^{-2}$ | $2.7 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.1 \times 10^{-3}$ | $2.0 \times 10^{-3}$ | $2.1 \times 10^{-3}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $3.1 \times 10^{-4}$ | $1.7 \times 10^{-3}$ | $1.7 \times 10^{-3}$ | $3.2 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $3.1 \times 10^{-4}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $9.8 \times 10^{-4}$ | $9.2 \times 10^{-3}$ | $9.3 \times 10^{-3}$ | $1.0 \times 10^{-3}$ | $9.8 \times 10^{-4}$ | $9.9 \times 10^{-4}$ | $9.8 \times 10^{-4}$ | $9.8 \times 10^{-4}$ | $9.9 \times 10^{-4}$ |
| Copper | $3.0 \times 10^{-4}$ | $4.5 \times 10^{-4}$ | $4.7 \times 10^{-4}$ | $3.1 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $3.0 \times 10^{-4}$ | $2.7 \times 10^{-4}$ |
| Cyanide | $1.6 \times 10^{-2}$ | $1.7 \times 10^{-1}$ | $1.8 \times 10^{-1}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ |
| Lead | $1.8 \times 10^{-3}$ | $2.7 \times 10^{-2}$ | $2.8 \times 10^{-2}$ | $2.2 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ | $1.8 \times 10^{-3}$ |
| Mercury | $4.4 \times 10^{-4}$ | $2.8 \times 10^{-4}$ | $6.9 \times 10^{-4}$ | $4.4 \times 10^{-4}$ | $4.4 \times 10^{-4}$ | $4.4 \times 10^{-4}$ | $4.4 \times 10^{-4}$ | $4.4 \times 10^{-4}$ | $4.3 \times 10^{-4}$ |
| Methylmercury | $6.3 \times 10^{-1}$ | $1.0 \times 10^{-3}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ | $6.3 \times 10^{-1}$ |
| Silver | $1.3 \times 10^{-5}$ | $4.0 \times 10^{-5}$ | $4.9 \times 10^{-5}$ | $1.4 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.3 \times 10^{-5}$ | $1.3 \times 10^{-5}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $1.4 \times 10^{-3}$ | $8.4 \times 10^{-3}$ | $8.6 \times 10^{-3}$ | $1.5 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $4.5 \times 10^{-4}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-13: Potential Risk for Ecological Receptor 13 (American Robin)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $7.7 \times 10^{-4}$ | **1.4** | **1.4** | $1.1 \times 10^{-2}$ | $7.7 \times 10^{-4}$ | $1.3 \times 10^{-3}$ | $1.3 \times 10^{-3}$ | $7.7 \times 10^{-4}$ | $1.3 \times 10^{-3}$ |
| Antimony | — | — | — | — | — | — | — | — | — |
| Arsenic | $4.0 \times 10^{-3}$ | $2.3 \times 10^{-2}$ | $2.3 \times 10^{-2}$ | $4.3 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ | $4.0 \times 10^{-3}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $1.1 \times 10^{-2}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-1}$ | $1.2 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ |
| Copper | $5.7 \times 10^{-3}$ | $9.1 \times 10^{-3}$ | $9.1 \times 10^{-3}$ | $5.8 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $5.7 \times 10^{-3}$ | $5.7 \times 10^{-3}$ |
| Cyanide | $2.4 \times 10^{-3}$ | $6.5 \times 10^{-1}$ | $6.5 \times 10^{-1}$ | $1.3 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ | $2.4 \times 10^{-3}$ |
| Lead | $8.4 \times 10^{-2}$ | **1.3** | **1.3** | $1.0 \times 10^{-1}$ | $8.4 \times 10^{-2}$ | $8.5 \times 10^{-2}$ | $8.5 \times 10^{-2}$ | $8.4 \times 10^{-2}$ | $8.5 \times 10^{-2}$ |
| Mercury | $1.9 \times 10^{-3}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $2.0 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ | $1.9 \times 10^{-3}$ |
| Methylmercury | $1.8 \times 10^{-5}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $4.3 \times 10^{-6}$ | $1.8 \times 10^{-5}$ | $1.8 \times 10^{-5}$ | $1.8 \times 10^{-5}$ | $1.8 \times 10^{-5}$ | $1.8 \times 10^{-5}$ |
| Silver | $1.3 \times 10^{-4}$ | $1.4 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $1.6 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ | $1.3 \times 10^{-4}$ |
| Thallium | — | — | — | — | — | — | — | — | — |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $9.4 \times 10^{-3}$ | $6.2 \times 10^{-2}$ | $6.2 \times 10^{-2}$ | $1.0 \times 10^{-2}$ | $9.4 \times 10^{-3}$ | $9.5 \times 10^{-3}$ | $9.5 \times 10^{-3}$ | $9.4 \times 10^{-3}$ | $9.5 \times 10^{-3}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

**Table 5.6.2.3-14: Potential Risk for Ecological Receptor 14 (Snowshoe Hare)**

| Contaminant of Concern | Study Area No 1. | | | Study Area No. 2 | | | Study Area No. 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case | Base Case | Project Alone Case | Project Case |
| | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases | Risk | Maximum Risk for all Project Phases | Maximum Risk for all Project Phases |
| Aluminum | $1.7 \times 10^{-3}$ | **$5.0 \times 10^{1}$** | **$5.0 \times 10^{1}$** | $4.0 \times 10^{-1}$ | $2.0 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.2 \times 10^{-2}$ | $2.0 \times 10^{-2}$ | $2.2 \times 10^{-2}$ |
| Antimony | $6.0 \times 10^{-3}$ | $5.5 \times 10^{-2}$ | $5.5 \times 10^{-2}$ | $6.6 \times 10^{-3}$ | $6.0 \times 10^{-3}$ | $6.0 \times 10^{-3}$ | $6.0 \times 10^{-3}$ | $6.0 \times 10^{-3}$ | $6.0 \times 10^{-3}$ |
| Arsenic | $1.5 \times 10^{-2}$ | $8.7 \times 10^{-2}$ | $8.7 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ | $1.5 \times 10^{-2}$ |
| Cadmium | — | — | — | — | — | — | — | — | — |
| Cobalt | $6.3 \times 10^{-3}$ | $6.7 \times 10^{-2}$ | $6.7 \times 10^{-2}$ | $6.8 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $6.3 \times 10^{-3}$ | $6.3 \times 10^{-3}$ |
| Copper | $4.3 \times 10^{-2}$ | $6.8 \times 10^{-2}$ | $6.8 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ | $4.3 \times 10^{-2}$ |
| Cyanide | $2.8 \times 10^{-6}$ | $7.8 \times 10^{-4}$ | $7.8 \times 10^{-4}$ | $1.6 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ |
| Lead | $7.3 \times 10^{-4}$ | $1.1 \times 10^{-2}$ | $1.1 \times 10^{-2}$ | $8.9 \times 10^{-4}$ | $7.3 \times 10^{-4}$ | $7.3 \times 10^{-4}$ | $7.3 \times 10^{-4}$ | $7.3 \times 10^{-4}$ | $7.3 \times 10^{-4}$ |
| Mercury | $2.3 \times 10^{-3}$ | $1.6 \times 10^{-2}$ | $1.6 \times 10^{-2}$ | $2.4 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ | $2.3 \times 10^{-3}$ |
| Methylmercury | $2.8 \times 10^{-6}$ | $6.1 \times 10^{-4}$ | $6.1 \times 10^{-4}$ | $6.8 \times 10^{-7}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ | $2.8 \times 10^{-6}$ |
| Silver | $8.9 \times 10^{-6}$ | $9.4 \times 10^{-5}$ | $9.4 \times 10^{-5}$ | $1.1 \times 10^{-5}$ | $8.9 \times 10^{-6}$ | $9.0 \times 10^{-6}$ | $9.0 \times 10^{-6}$ | $8.9 \times 10^{-6}$ | $9.0 \times 10^{-6}$ |
| Thallium | $1.4 \times 10^{-2}$ | $4.9 \times 10^{-1}$ | $4.9 \times 10^{-1}$ | $1.5 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ | $1.4 \times 10^{-2}$ |
| Uranium | — | — | — | — | — | — | — | — | — |
| Zinc | $3.8 \times 10^{-3}$ | $2.5 \times 10^{-2}$ | $2.5 \times 10^{-2}$ | $4.1 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ | $3.8 \times 10^{-3}$ |

**NOTES:**

| | |
|---|---|
| Units | Unitless fraction |
| — | Indicates inoperable exposure scenario (i.e., chemical release mechanism- pathway-receptor combination) |
| **BOLD AND SHADED** | Calculated ecological hazard quotient exceeds CCME risk benchmark of 1 |
| **BOLD AND SHADED** | Residual adverse effect identified. Risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the CCME acceptable ecological risk benchmark of 1 and is larger than the risk estimate for the Base Case Assessment Scenario. |

## 5.7 Cumulative Effects

Residual adverse effects for ecological receptors were identified for aluminum, arsenic, antimony, lead, thallium and zinc in the Operations Area only. The incremental risks associated with the Project relate to the exposure of ecological receptors to the media present within the operations area (e.g., TSF supernatant water and waste rock during the active phases of the Project). The ecological receptors affected by these Project media are restricted to the local study area and are unlikely to be exposed to contaminants from other Projects. Therefore, cumulative effects associated with the identified residual adverse effects of the Project on ecological receptors are not likely to occur.

## 5.8 Determination of Significance

As there were residual adverse effects (effects that remain after the implementation of mitigation and risk management measures), a determination of magnitude was done in accordance with Section 13.1 of the EIS Guidelines (CEAA, 2013). The EIS Guidelines go on to describe the elements that should be considered when determining environmental significance under CEAA 2012. These include the following:

- Magnitude;
- Geographic extent;
- Timing and duration;
- Frequency; and
- Reversibility.

In assigning levels of magnitude, the thresholds set out in Table 4.8-1.

**Table 4.8-1: Definitions for Levels of Magnitude**

| | I | II | III |
|---|---|---|---|
| Ecological Risk | Base Case EHQ and Project Case EHQ are within 1 order of magnitude | Project Case EHQ is between 1 and 2 orders of magnitude higher than Base Case EHQ | Project Case EHQ is more than 2 orders of magnitude higher than Base Case EHQ |
| NOTES: | | | |
| A residual adverse effect is defined when the risk for the Project Assessment Scenario via the sum of all operable pathways, exceeds the Health Canada acceptable risk benchmark and the estimated potential risk for the Base Case Assessment Scenario. | | | |

As the residual effects identified in the above table were all classified as having magnitudes of Level I (see Tables 5.6.2.3-1 through Tables 5.6.2.3-14) there was no requirement to classify the other assessment measures. Effects of a Level I magnitude would not be significant.

## 5.9 ERA Uncertainty Analysis

Uncertainty in risk assessment is introduced by the necessary use of assumptions concerning various aspects or characteristics of the system. Incomplete understanding of environmental processes is inherent in any ERA. Uncertainty is acknowledged, documented, and addressed primarily by the use of conservative

assumptions which ensure risk is overestimated rather than underestimated. Various sources of uncertainty associated with the current ecological risk assessment are discussed below, however in most cases are similar to the uncertainty described as part of the HHRA.

### 5.9.1 Problem Formulation Uncertainty

Sources of uncertainty in the ecological problem formulation include the following:

- Concentrations of metals in environmental media and project-specific media were measured or estimated in the existing environment. With the exception of fish, the sampling program did not include baseline sampling of biota to be assessed as part of the ERA.
- All COC concentrations in biota were modelled for the Project and Project only Assessment Scenarios.
- Groundwater and sediment were not considered as media sources of exposure.

### 5.9.2 Toxicity Assessment Uncertainty

Datasets of toxicological information for many chemicals are sometimes incomplete. As a result, toxicity values based on these datasets often have varying degrees of uncertainty leading to over- or under-estimation of risks.

Animal models are often limited to a small variety of test species which are not often the same as the ecological receptors requiring assessment in the ERA. Assumptions are then made to derive an appropriate TRV. Therefore, these procedures to derive the TRV imply that all species of animals will respond in similar fashion.

Exposure limits developed by leading regulatory agencies typically incorporate large safety/ uncertainty factors to compensate for uncertainties.

### 5.9.3 Exposure Assessment Uncertainty

The exposure assessment makes assumptions regarding the exposure regimes that the ecological receptors undergo. Uncertainties in the exposure assessment include:

- Uncertainty in the exposure assessment was related primarily to assumptions regarding the presence of ecological VECs and the concentrations to which they are exposed. In assessing exposure to environmental and project-specific media and prey items on-site, a 95th UCLM was used. This approach is likely to overestimate exposure, rather than underestimate exposure.
- Within the exposure assessment it is assumed that 100% of the metal ingested is bioavailable. This has the potential to overestimate exposure.
- The characteristics used to calculate the estimates daily exposure dose of COCs into the VECs were derived from the FCSAP guidance, however in some cases assumptions were made such as assuming 2% incidental soil ingestion when the FCSAP guidance did not provide an incidental soil ingestion rate. This may result in an overestimation of potential risk.

- Insects and soil invertebrates were assumed to have the same COC concentrations, soil invertebrates uptake factors were based on the assumption that they are earth worms which have a higher fat composition than inspection, thus for chemicals with a higher octanol-water partitioning coefficients, this may lead to an overestimation of exposure and subsequently risk.

- The surrogate receptors used in the assessment for birds and mammals and their receptor characteristics were chosen to prevent an underestimate of potential exposure amongst birds and mammals potentially present. As such, exposures are unlikely to be underestimated.

### 5.9.4 Risk Characterization Uncertainty

The risk characterization step combines the results of the exposure and toxicity assessment thus the level of uncertainty is inherently linked to the level of uncertainty associated with each of those steps. In addition:

- Because of the inherent uncertainty in predicting toxicological responses from literature studies rather than directly measuring toxicity at the Site, there is some uncertainty associated with toxicity reference values. In most cases, benchmarks are assumed to be conservative; i.e., no toxicity is anticipated if COC concentrations are below benchmarks at the particular site under investigation. This is because most reference values are based on the most sensitive species tested or a similar low effect level (e.g., 10th or 25th percentile of species sensitivity distribution), and toxicity tests upon which they are based are typically conducted under conditions that maximize toxicity (i.e., the use of soluble metal salts). It is anticipated that the use of TRVs is likely to overestimate effect, rather than underestimate effects. An exception is for TRVs for plants and invertebrates, as discussed above.

- For the most part, the Hazard Quotients generated in the ERA should be considered to be conservative; i.e., HQs greater than one do not necessarily mean toxicity is occurring at the area under investigation.

- Based on the results of this risk assessment, any uncertainty present is considered unlikely to result in an underestimate of risk or impact the resulting risk management recommendations.

# 6.0 Human Health & Ecological Risk Assessment Summary

The results of the HHRA for exposure to CACs via the inhalation of air pathway indicated that the implementation of a Health and Safety Plan involving the prescribed use of personal protective equipment including dust masks would be required for all Project Workers of the Goliath Gold Project. The Health and Safety Plan will serve as an appropriate risk management/ mitigation measure to mitigate any adverse health effect associated with elevated concentrations of criteria air contaminants within the Operations Area. With a Health and Safety Plan implemented as a risk management measure, exposure via the inhalation pathway is considered negligible and no residual adverse effects are identified to Project Workers. Potential health risks to residents or visitors/ harvesters who may practice traditional land and resource use beyond the Operations Area (including within the Property Boundary) were determined to be essentially negligible. No residual adverse effects were identified to residents or visitors/harvesters via inhalation of CACs in air. Although the results of the HHERA do not indicate that risk management or mitigation measures are required during traditional land and resource use, as part of the sign in and access policy, Treasury Metals will offer appropriate personal protective equipment to those who prefer to wear it while within the Property Boundary.

The results of the HHRA for exposure to inorganics and methylmercury via all operable exposure pathways identified residual adverse effects for three of the valued components; arsenic, zinc, and thallium. The results of the HHERA indicated that there would be no residual adverse effects to a Project Worker with the implementation of a Health and Safety Plan which includes the prescribed use of personal protective equipment such as dust masks/respirator, long pants and sleeves, and gloves when working within the Operations Area of the Project. Residual adverse effects for human health were identified to both the resident and visitor/harvester receptors for thallium (non-cancer risk), zinc (non-cancer risk), and arsenic (cancer risk). Ingestion of country foods contributed the highest proportion to the overall characterization of residual adverse effects via the sum of risk from all operable exposure pathways for thallium and zinc (Figure 6-1). Direct contact with arsenic in surface water contributed the highest proportion to the overall characterization of residual adverse effects of arsenic, although the concentration of arsenic in the water bodies did not exceed PWQO or Health Canada's maximum acceptable criteria for drinking water (Figure 6-1). The source of arsenic in the surface water bodies is not from human activities, rather a consequence of the natural geology of the region which is a common occurrence in Northern Ontario. A detailed follow up program has been designed to address the uncertainties associated with the HHRA, however at this time, potential risks to human receptors who may live or practice traditional land and resource use in areas surrounding the Goliath Gold Project are anticipated to be essentially negligible.

The results of the ERA for exposure to inorganics and methylmercury via all operable exposure pathways identified residual adverse effects for six (6) of the valued components; aluminum, antimony, arsenic, lead, thallium, and zinc to select mammals and birds, but only within the Operations Area of the Project. There were no residual adverse effects identified to any ecological receptors in the local study area or the Village of Wabigoon. This result indicates that the Goliath Gold Project is unlikely to change the ability of Indigenous community members to practice their traditional land and resource use as the Project is not predicted to have a meaningful effect on the health of ecological receptors on those locations. At this time, no potential risk to mammals and birds via exposure to chemicals in Project-Specific media within the Operations Area is anticipated.

**Figure 6-1. Relative Contribution to Residual Adverse Effects via all Operable Exposure Pathways**

Where residual adverse effects were identified to both human health or ecological receptors, a qualitative cumulative effects assessment and significance assessment completed. The results indicated that the residual adverse effects would not overlap spatially or temporally with other Projects, therefore, cumulative effects associated with the identified residual adverse effects of the Project on human and ecological receptors are not likely to occur. All of the residual adverse effects identified were determined to have a magnitude of "Level I". Effects with a magnitude level of I are not significant, therefore no significant adverse effects were identified to human health or ecological receptors.

The country foods assessment and quantitative ecological risk assessment relied solely on the use of modelled chemical concentration data as a baseline country foods study was not completed in support of the revised EIS (April 2018), as such there are uncertainties associated with the predictions which are likely to overestimate the calculations used to determine residual adverse effects. A detailed follow up program has been provided in the Final Goliath Gold Follow Up Program Addendum to verify the predictions related to chemical concentrations in mammals and birds used in the assessment of residual adverse effects on human health and ecological receptors. As per the Federal Contaminated Sites Action Plan (FCSAP) Guidance for completing an ERA, a multiple line of evidence approach should be applied prior to accepting the results of an ERA and implementing risk management measures. As such, as part of the follow up programs for wildlife, migratory birds, and species at risk, exposure of mammals and birds to the onsite structures (waste rock storage area, TSF supernatant water, pit lake) should be confirmed prior to requirement to implement risk management measures. At this time, no potential risk to mammals and birds via exposure to chemicals in Project-Specific media within the Operations Area is anticipated.

Treasury Metals recognizes that the perception of risk, safety, and well-being is a concern to members Indigenous communities and has proposed to work with each Indigenous stakeholder community to develop a risk communication plan to help mitigate the perceptions of risk, safety and well-being associated with the Goliath Gold Project.

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# Appendix I

# Raw Data

# I. APPENDIX I- RAW DATA

Appendix I to the HHERA contains the following raw data summary tables relied upon in the HHERA report:

| Table Number | Details |
|---|---|
| I-1 | Particulate Matter (µg/m$^3$) and Dustfall (g/m$^2$) (Project Alone Assessment Scenario) |
| I-2 | Particulate Matter (µg/m$^3$) and Dustfall (g/m$^2$) (Project Assessment Scenario) |
| I-3 | Metal Speciation for Fugitive Dust (Air) Determination (µg/g)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-4 | Metal Concentrations (µg/m$^3$) in Air (Base Case)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-5 | Metal Concentrations (µg/m$^3$) in Air (Project Alone Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-6 | Metal Concentrations (µg/m$^3$) in Air (Project Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-7 | Metal Concentrations (µg/g) in Ore- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-8 | Metal Concentrations (µg/g) in Waste Rock- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-9 | Metal Concentration (µg/g) in Soils (Base Case Assessment Scenario) |
| I-10 | Metal Concentrations (µg/g) in Soils- Study Area No. 1 (Project Alone Assessment Scenario)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-11 | Metal Concentrations (µg/g) in Soils- Study Area No. 1 (Project Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-12 | Metal Concentrations (µg/g) in Soils- Study Area No. 2 (Project Alone Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-13 | Metal Concentrations (µg/g) in Soils- Study Area No. 2 (Project Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-14 | Metal Concentrations (µg/g) in Soils- Study Area No. 3 (Project Alone Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-15 | Metal Concentrations (µg/g) in Soils- Study Area No. 3 (Project Assessment Scenario) - 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-16 | Measured Concentrations (mg/L) of Chemical Parameters in Water- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-17 | Modelled Metal Concentrations (mg/L) in Water (Base Case Assessment Scenario, Wet Cover Option)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-18 | Modelled Metal Concentrations (mg/L) in Water (Project Alone Assessment Scenario, Operations, Wet Cover Option)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-19 | Modelled Metal Concentrations (mg/L) in Water (Project Assessment Scenario, Operations, Wet Cover Option)- 95$^{th}$ Percent Upper Confident Limit of the Mean |

| | |
|---|---|
| I-20 | Modelled Metal Concentrations (mg/L) in Water (Project Alone Assessment Scenario, Post-Closure, Wet Cover Option)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-21 | Modelled Metal Concentrations (mg/L) in Water (Project Assessment Scenario, Post-Closure, Wet Cover Option)- 95$^{th}$ Percent Upper Confident Limit of the Mean |
| I-22 | Measured Concentrations (µg/g) of Chemical Parameters in Fish |

Table I-1: Particulate Matter (µg/m³) and Dustfall (g/m²) (Project Alone Assessment Scenario)

| Compound | Period | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM |
| Dustfall | 1-hour | 164.9306074 | 34.34376995 | 22.53762501 | 345.1870376 | 29.73563839 | 15.11784228 | 151.8367715 | 32.01182968 | 21.27014215 |
| Dustfall | 24-hour | 93.61337116 | 5.567291543 | 1.182338905 | 104.9203874 | 5.082320191 | 0.77637638 | 91.69892375 | 5.537701112 | 1.155634819 |
| Dustfall | Annual | 15.9041392 | 0.646496502 | 0.119769252 | 13.78809691 | 0.748488946 | 0.0921366 | 15.55547826 | 0.648593495 | 0.116305274 |
| Dustfall | Monthly | 29.84876028 | 1.401421793 | 0.303634195 | 28.40209515 | 1.363662167 | 0.213416961 | 29.20563467 | 1.402530855 | 0.294479314 |
| PM10 | 1-hour | 70.17408881 | 15.77942241 | 9.626409904 | 354.8554977 | 26.5974839 | 8.114195509 | 62.86827115 | 14.62985213 | 8.969667026 |
| PM10 | 24-hour | 41.09764743 | 3.033860044 | 0.703042889 | 101.778575 | 4.897293415 | 0.719213338 | 39.8148331 | 2.976319274 | 0.67899288 |
| PM10 | Annual | 9.597763818 | 0.455334951 | 0.095499009 | 10.17131785 | 0.563317879 | 0.094220666 | 9.253161429 | 0.450225078 | 0.091718587 |
| PM2.5 | 1-hour | 10.46283669 | 2.399338055 | 1.389157119 | 181.9669289 | 13.77959248 | 3.525229428 | 9.111268786 | 2.018035365 | 1.200678444 |
| PM2.5 | 24-hour | 5.839936433 | 0.452515687 | 0.100659569 | 51.7568284 | 2.616235413 | 0.373749405 | 5.570994844 | 0.418701585 | 0.092182942 |
| PM2.5 | Annual | 1.463434564 | 0.068223041 | 0.014558293 | 2.810815496 | 0.200246427 | 0.025001326 | 1.354713248 | 0.064138468 | 0.012890942 |
| TSP | 1-hour | 246.2932491 | 56.59696466 | 34.88035307 | 546.5063846 | 56.72441429 | 29.18180475 | 231.2728813 | 53.70950602 | 32.96294628 |
| TSP | 24-hour | 150.2238363 | 10.96008875 | 2.552895367 | 174.2592428 | 11.18459387 | 2.143383349 | 147.085699 | 10.89630109 | 2.497030958 |
| TSP | Annual | 34.72601511 | 1.639920651 | 0.343170852 | 30.9470595 | 1.802124168 | 0.303268855 | 33.98604129 | 1.642829855 | 0.335189816 |

Table I-2: Particulate Matter (µg/m³) and Dustfall (g/m²) (Project)

| Compound | Period | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM |
| Dustfall | 1-hour | 164.9306074 | 34.34376995 | 22.53762501 | 345.1870376 | 29.73563839 | 15.11784228 | 151.8367715 | 32.01182968 | 21.27014215 |
| Dustfall | 24-hour | 93.61337116 | 5.567291543 | 1.182338905 | 104.9203874 | 5.082320191 | 0.77637638 | 91.69892375 | 5.537701112 | 1.155634819 |
| Dustfall | Annual | 15.9041392 | 0.646496502 | 0.119769252 | 13.78809691 | 0.748488946 | 0.0921366 | 15.55547826 | 0.648593495 | 0.116305274 |
| Dustfall | Monthly | 29.84876028 | 1.401421793 | 0.303634195 | 28.40209515 | 1.363662167 | 0.213416961 | 29.20563467 | 1.402530855 | 0.294479314 |
| PM10 | 1-hour | 70.17408881 | 15.77942241 | 9.626409904 | 354.8554977 | 26.5974839 | 8.114195509 | 62.86827115 | 14.62985213 | 8.969667026 |
| PM10 | 24-hour | 56.09764743 | 18.03386004 | 15.70304289 | 116.778575 | 19.89729341 | 15.71921334 | 54.8148331 | 17.97631927 | 15.67899288 |
| PM10 | Annual | 9.597763818 | 0.455334951 | 0.095499009 | 10.17131785 | 0.563317879 | 0.094220666 | 9.253161429 | 0.450225078 | 0.091718587 |
| PM2.5 | 1-hour | 10.46283669 | 2.399338055 | 1.389157119 | 181.9669289 | 13.77959248 | 3.525229428 | 9.111268786 | 2.018035365 | 1.200678444 |
| PM2.5 | 24-hour | 15.83993643 | 10.45251569 | 10.10065957 | 61.7568284 | 12.61623541 | 10.3737494 | 15.57099484 | 10.41870159 | 10.09218294 |
| PM2.5 | Annual | 5.763434564 | 4.368223041 | 4.314558293 | 7.110815496 | 4.500246427 | 4.325001326 | 5.654713248 | 4.364138468 | 4.312890942 |
| TSP | 1-hour | 246.2932491 | 56.59696466 | 34.88035307 | 546.5063846 | 56.72441429 | 29.18180475 | 231.2728813 | 53.70950602 | 32.96294628 |
| TSP | 24-hour | 183.2238363 | 43.96008875 | 35.55289537 | 207.2592428 | 44.18459387 | 35.14338335 | 180.085699 | 43.89630109 | 35.49703096 |
| TSP | Annual | 48.72601511 | 15.63992065 | 14.34317085 | 44.9470595 | 15.80212417 | 14.30326886 | 47.98604129 | 15.64282985 | 14.33518982 |

Table I-3: Metal Speciation for Fugitive Dust (Air) Determination (µg/g)- 95th Percent Upper Confident Limit of the Mean

| | | | | |
|---|---|---|---|---|
| Soil | 12% | 0% | 12% | 12% |
| Ore | 0% | 10% | 0% | 0% |
| Waste Rock | 88% | 90% | 88% | 88% |

| Parameter and Symbol | Soil UCL | Ore UCL | Waste Rock UCL | Site Preparation and Construction | Operations | Closure | Post-closure |
|---|---|---|---|---|---|---|---|
| Antimony (Sb) | 0.5 | 34.50400209 | 4.694785067 | 4.205961875 | 7.798625391 | 4.202077173 | 4.202077173 |
| Arsenic (As) | 3.363552072 | 82.6307332 | 19.46632073 | 17.58984634 | 26.0432211 | 17.5749339 | 17.5749339 |
| Barium (Ba) | 111.1861178 | 456.8354372 | 80.51475097 | 84.08892108 | 119.6985819 | 84.11732519 | 84.11732519 |
| Beryllium (Be) | 0.525965023 | 1.471520723 | 0.25965618 | 0.29068946 | 0.38583977 | 0.290936083 | 0.290936083 |
| Bismuth (Bi) | 0.5 | 10.75215047 | 0.153217669 | 0.193628618 | 1.256815761 | 0.193949766 | 0.193949766 |
| Boron (B) | 4.092902737 | — | 35.27034848 | 31.63720439 | 31.59787597 | 31.60833162 | 31.60833162 |
| Cadmium (Cd) | 0.373616223 | 9.522791018 | 1.106316045 | 1.020933681 | 1.982668966 | 1.020255143 | 1.020255143 |
| Chromium (Cr) | 54.50185026 | 153.6273533 | 43.82451905 | 45.0687609 | 55.25757562 | 45.07864895 | 45.07864895 |
| Cobalt (Co) | 11.35346769 | 9.836435512 | 119.8066897 | 107.1685093 | 108.3562008 | 107.0680731 | 107.0680731 |
| Copper (Cu) | 24.62966637 | 193.7803267 | 39.31637869 | 37.60491899 | 55.39970721 | 37.59131793 | 37.59131793 |
| Iron (Fe) | 26852.01355 | — | 19972.15886 | 20773.87634 | 17892.58756 | 20780.24763 | 20780.24763 |
| Lead (Pb) | 9.325484655 | 1322.100023 | 144.7345915 | 128.9552105 | 267.3260135 | 128.8298109 | 128.8298109 |
| Lithium (Li) | 22.73661853 | 17.8267429 | 11.6109513 | 12.90743827 | 12.25816134 | 12.91774151 | 12.91774151 |
| Manganese (Mn) | 549.4003304 | 461.1349321 | 409.5619594 | 425.8574877 | 414.9319183 | 425.9869891 | 425.9869891 |
| Mercury (Hg) | 0.039230831 | — | 0.274748573 | 0.247303416 | 0.246140787 | 0.247085308 | 0.247085308 |
| Molybdenum (Mo) | 0.575904698 | 9.198385694 | 0.940414975 | 0.897938167 | 1.800263876 | 0.897600602 | 0.897600602 |
| Nickel (Ni) | 30.91471598 | 37.49093342 | 21.0085718 | 22.16294633 | 22.72477316 | 22.1721202 | 22.1721202 |
| Phosphorus (P) | 552.3403097 | 460.9835657 | 513.2781666 | 517.8301236 | 507.8330691 | 517.8662983 | 517.8662983 |
| Selenium (Se) | 0.5 | 11.59253446 | — | 0.058265583 | 1.207055384 | 0.058728622 | 0.058728622 |
| Silver (Ag) | 0.117349645 | 22.04163224 | 1.27471562 | 1.139846415 | 3.437039883 | 1.138774602 | 1.138774602 |
| Strontium (Sr) | 41.33197775 | 101.6522474 | 18.11017672 | 20.81624026 | 26.8088704 | 20.83774548 | 20.83774548 |
| Thallium (Tl) | 0.25 | 12.40974306 | 0.298506369 | 0.292853866 | 1.559570851 | 0.292808945 | 0.292808945 |
| Tin (Sn) | 2.5 | 96.53396485 | 0.865488356 | 1.055959902 | 10.82682598 | 1.057473589 | 1.057473589 |
| Titanium (Ti) | 1560.904401 | 1458.870086 | 750.7171774 | 845.1292387 | 824.4525443 | 845.8795361 | 845.8795361 |
| Uranium (U) | 0.5 | 10 | 0.937281635 | 0.886324697 | 1.880923687 | 0.885919739 | 0.885919739 |
| Vanadium (V) | 55.63466816 | 37.30147872 | 20.60459634 | 24.68669143 | 22.34313435 | 24.71913205 | 24.71913205 |
| Zinc (Zn) | 67.30535403 | 2751.831284 | 443.9028405 | 400.0174966 | 684.2124522 | 399.6687376 | 399.6687376 |
| Aluminum (Al) | — | — | 16455.14111 | 14537.60434 | 14741.77405 | 14522.36558 | 14522.36558 |
| Calcium (Ca) | — | — | 5986.162624 | 5288.588118 | 5362.862357 | 5283.044459 | 5283.044459 |
| Cerium (Ce) | — | — | 36.98929763 | 32.67889168 | 33.13784211 | 32.64463667 | 32.64463667 |
| Cesium (Cs) | — | — | 5.778021695 | 5.104702094 | 5.176393792 | 5.099351189 | 5.099351189 |
| Gallium (Ga) | — | 20.19007082 | 7.018846067 | 6.200931756 | 8.390280227 | 6.19443175 | 6.19443175 |
| Germanium (Ge) | — | — | 0.108871664 | 0.096184722 | 0.097535564 | 0.096083898 | 0.096083898 |
| Hafnium (Hf) | — | — | 0.412158175 | 0.364128902 | 0.369242819 | 0.363747211 | 0.363747211 |
| Indium (In) | — | — | 0.020546372 | 0.01815208 | 0.018407012 | 0.018133052 | 0.018133052 |
| Lanthanum (La) | — | 19.17352218 | 18.91932744 | 16.71463616 | 18.94579509 | 16.69711537 | 16.69711537 |
| Luthetium (Lu) | — | — | 0.039025783 | 0.034478063 | 0.034962282 | 0.034441922 | 0.034441922 |
| Magnesium (Mg) | — | — | 8880.24234 | 7845.417352 | 7955.600333 | 7837.193547 | 7837.193547 |
| Niobium (Nb) | — | — | 0.209832115 | 0.185380135 | 0.187983659 | 0.185185813 | 0.185185813 |
| Potassium (K) | — | — | 8005.360492 | 7072.486505 | 7171.814255 | 7065.07291 | 7065.07291 |
| Rubidium (Rb) | — | — | 37.44497572 | 33.08146907 | 33.5460734 | 33.04679206 | 33.04679206 |
| Scandium (Sc) | — | 7.203531802 | 2.42405554 | 2.141577523 | 2.921711387 | 2.139332657 | 2.139332657 |
| Sodium (Na) | — | — | 1662.788612 | 1469.021918 | 1489.653225 | 1467.482044 | 1467.482044 |
| Sulphur (S) | — | — | 9552.644652 | 8439.463839 | 8557.989755 | 8430.617335 | 8430.617335 |
| Tantalum (Ta) | — | — | 0.05 | 0.044173442 | 0.044793824 | 0.044127138 | 0.044127138 |
| Technetium (Te) | — | — | 0.0810026 | 0.071563273 | 0.072568325 | 0.071488258 | 0.071488258 |
| Terbium (Tb) | — | — | 0.230885901 | 0.203980498 | 0.20684525 | 0.203766679 | 0.203766679 |
| Thorium (Th) | — | 20 | 4.255371727 | 3.759488301 | 5.894757696 | 3.755547491 | 3.755547491 |
| Tungsten (W) | — | 35.76236483 | 0.556372175 | 0.491537477 | 4.222143723 | 0.491022232 | 0.491022232 |
| Ytterbium (Yb) | — | — | 0.284812106 | 0.251622619 | 0.255156469 | 0.251358861 | 0.251358861 |
| Yttrium (Y) | — | 5.904637091 | 3.357057126 | 2.965855347 | 3.622320095 | 2.962746447 | 2.962746447 |
| Zirconium (Zr) | — | — | 16.05766249 | 14.18644437 | 14.3856823 | 14.1715737 | 14.1715737 |

Table I-4: Metal Concentrations (µg/m³) in Air (Base Case Assessment Scenario)-
95th Percent Upper Confident Limit of the Mean

| Compound | Screening Criteria | Base Case | | |
|---|---|---|---|---|
| | | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM |
| Antimony (Sb) | 25 | 0.0000165 | 0.0000165 | 0.0000165 |
| Arsenic (As) | 0.3 | 0.000110997 | 0.000110997 | 0.000110997 |
| Barium (Ba) | 10 | 0.003669142 | 0.003669142 | 0.003669142 |
| Beryllium (Be) | 0.01 | 1.73568E-05 | 1.73568E-05 | 1.73568E-05 |
| Bismuth (Bi) | — | 0.0000165 | 0.0000165 | 0.0000165 |
| Boron (B) | 120 | 0.000135066 | 0.000135066 | 0.000135066 |
| Cadmium (Cd) | 0.025 | 1.23293E-05 | 1.23293E-05 | 1.23293E-05 |
| Chromium (Cr) | 1 | 0.001798561 | 0.001798561 | 0.001798561 |
| Cobalt (Co) | 0.1 | 0.000374664 | 0.000374664 | 0.000374664 |
| Copper (Cu) | 50 | 0.000812779 | 0.000812779 | 0.000812779 |
| Iron (Fe) | 4 | 0.886116447 | 0.886116447 | 0.886116447 |
| Lead (Pb) | 0.5 | 0.000307741 | 0.000307741 | 0.000307741 |
| Lithium (Li) | 20 | 0.000750308 | 0.000750308 | 0.000750308 |
| Manganese (Mn) | 0.4 | 0.018130211 | 0.018130211 | 0.018130211 |
| Mercury (Hg) | 2 | 1.29462E-06 | 1.29462E-06 | 1.29462E-06 |
| Molybdenum (Mo) | 120 | 1.90049E-05 | 1.90049E-05 | 1.90049E-05 |
| Nickel (Ni) | 0.04 | 0.001020186 | 0.001020186 | 0.001020186 |
| Phosphorus (P) | — | 0.01822723 | 0.01822723 | 0.01822723 |
| Selenium (Se) | 10 | 0.0000165 | 0.0000165 | 0.0000165 |
| Silver (Ag) | 1 | 3.87254E-06 | 3.87254E-06 | 3.87254E-06 |
| Strontium (Sr) | 120 | 0.001363955 | 0.001363955 | 0.001363955 |
| Thallium (Tl) | — | 0.00000825 | 0.00000825 | 0.00000825 |
| Tin (Sn) | 10 | 0.0000825 | 0.0000825 | 0.0000825 |
| Titanium (Ti) | 120 | 0.051509845 | 0.051509845 | 0.051509845 |
| Uranium (U) | 0.06 | 0.0000165 | 0.0000165 | 0.0000165 |
| Vanadium (V) | 2 | 0.001835944 | 0.001835944 | 0.001835944 |
| Zinc (Zn) | 120 | 0.002221077 | 0.002221077 | 0.002221077 |

Table I-5: Metal Concentrations (µg/m³) in Air (Project Alone Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

| Compound | Screening Criteria | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM |
| Antimony (Sb) | 25 | 0.000631836 | 4.60977E-05 | 1.07374E-05 | 0.001358983 | 8.72245E-05 | 1.67154E-05 | 0.000618065 | 4.57871E-05 | 1.04927E-05 |
| Arsenic (As) | 0.3 | 0.002642414 | 0.000192786 | 4.4905E-05 | 0.004538272 | 0.000291283 | 5.58206E-05 | 0.002585021 | 0.000191502 | 4.38852E-05 |
| Barium (Ba) | 10 | 0.01263216 | 0.000921622 | 0.00021467 | 0.020858584 | 0.00133878 | 0.00025656 | 0.012372456 | 0.000916568 | 0.000210044 |
| Beryllium (Be) | 0.01 | 4.36685E-05 | 3.18598E-06 | 7.421E-07 | 6.72361E-05 | 4.31546E-06 | 8.27003E-07 | 4.27925E-05 | 3.17013E-06 | 7.26476E-07 |
| Bismuth (Bi) | — | 2.90876E-05 | 2.12219E-06 | 4.94314E-07 | 0.000219012 | 1.4057E-05 | 2.69384E-06 | 2.85272E-05 | 2.11334E-06 | 4.84299E-07 |
| Boron (B) | 120 | 0.004752662 | 0.000346747 | 8.07665E-05 | 0.005506222 | 0.000353409 | 6.77264E-05 | 0.004649134 | 0.000344414 | 7.8927E-05 |
| Cadmium (Cd) | 0.025 | 0.000153369 | 1.11895E-05 | 2.60634E-06 | 0.000345498 | 2.21753E-05 | 4.24962E-06 | 0.000150065 | 1.1117E-05 | 2.54761E-06 |
| Chromium (Cr) | 1 | 0.006770402 | 0.000493958 | 0.000115056 | 0.009629143 | 0.000618034 | 0.000118438 | 0.006630425 | 0.000491191 | 0.000112563 |
| Cobalt (Co) | 0.1 | 0.016099265 | 0.001174576 | 0.00027359 | 0.018882069 | 0.00121192 | 0.000232249 | 0.015748182 | 0.001166646 | 0.000267352 |
| Copper (Cu) | 50 | 0.005649155 | 0.000412153 | 9.60014E-05 | 0.009653911 | 0.000619623 | 0.000118743 | 0.005529145 | 0.000409606 | 9.38667E-05 |
| Iron (Fe) | 4 | 3.120731398 | 0.227683528 | 0.053033533 | 3.117948761 | 0.200121325 | 0.038350674 | 3.056477247 | 0.226427835 | 0.051888922 |
| Lead (Pb) | 0.5 | 0.019372146 | 0.001413361 | 0.000329209 | 0.046584029 | 0.002989933 | 0.000572982 | 0.018949023 | 0.001403768 | 0.000321692 |
| Lithium (Li) | 20 | 0.001939005 | 0.000141467 | 3.29513E-05 | 0.002136098 | 0.000137103 | 2.62739E-05 | 0.001900015 | 0.000140756 | 3.2256E-05 |
| Manganese (Mn) | 0.4 | 0.063973946 | 0.004667436 | 0.00108717 | 0.072305722 | 0.004640845 | 0.000889358 | 0.062656594 | 0.004641682 | 0.001063703 |
| Mercury (Hg) | 2 | 3.71509E-05 | 2.71047E-06 | 6.3134E-07 | 4.28923E-05 | 2.75298E-06 | 5.27574E-07 | 3.63427E-05 | 2.69232E-06 | 6.1698E-07 |
| Molybdenum (Mo) | 120 | 0.000134892 | 9.84148E-06 | 2.29234E-06 | 0.000313713 | 2.01352E-05 | 3.85866E-06 | 0.000132024 | 9.78053E-06 | 2.24134E-06 |
| Nickel (Ni) | 0.04 | 0.003329403 | 0.000242908 | 5.65797E-05 | 0.003960002 | 0.000254167 | 4.87079E-05 | 0.003261202 | 0.000241594 | 5.53645E-05 |
| Phosphorus (P) | — | 0.077790428 | 0.005675464 | 0.001321966 | 0.088494606 | 0.005679907 | 0.001088481 | 0.076170726 | 0.005642827 | 0.001293128 |
| Selenium (Se) | 10 | 8.75288E-06 | 6.38596E-07 | 1.48746E-07 | 0.000210341 | 1.35004E-05 | 2.58718E-06 | 8.63814E-06 | 6.39925E-07 | 1.46647E-07 |
| Silver (Ag) | 1 | 0.000171232 | 1.24928E-05 | 2.90991E-06 | 0.000598936 | 3.84419E-05 | 7.36689E-06 | 0.000167497 | 1.24084E-05 | 2.84356E-06 |
| Strontium (Sr) | 120 | 0.003127095 | 0.000228148 | 5.31417E-05 | 0.004671693 | 0.000299846 | 5.74617E-05 | 0.003064934 | 0.000227054 | 5.20325E-05 |
| Thallium (Tl) | — | 4.39936E-05 | 3.2097E-06 | 7.47625E-07 | 0.00027177 | 1.74432E-05 | 3.34276E-06 | 4.3068E-05 | 3.19053E-06 | 7.31153E-07 |
| Tin (Sn) | 10 | 0.00015863 | 1.15734E-05 | 2.69576E-06 | 0.001886674 | 0.000121094 | 2.3206E-05 | 0.000155539 | 1.15226E-05 | 2.64054E-06 |
| Titanium (Ti) | 120 | 0.126958556 | 0.009262691 | 0.002157527 | 0.143668476 | 0.009221167 | 0.001767118 | 0.124416783 | 0.009216958 | 0.002112187 |
| Uranium (U) | 0.06 | 0.000133147 | 9.7142E-06 | 2.26269E-06 | 0.000327768 | 2.10374E-05 | 4.03154E-06 | 0.000130306 | 9.65325E-06 | 2.21217E-06 |
| Vanadium (V) | 2 | 0.003708529 | 0.000270568 | 6.30225E-05 | 0.003893498 | 0.000249899 | 4.78899E-05 | 0.003635831 | 0.000269347 | 6.17244E-05 |
| Zinc (Zn) | 120 | 0.060092163 | 0.004384227 | 0.001021203 | 0.119230344 | 0.007652638 | 0.00146653 | 0.058785556 | 0.004354911 | 0.000997985 |

Table I-6: Metal Concentrations (µg/m³) in Air (Project Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

| Compound | Screening Criteria | Site Preparation and Construction Predictions | | | Operations Predictions | | | Closure Predictions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM | Operations Area UCLM | Local Study Area UCLM | Village of Wabigoon UCLM |
| Antimony (Sb) | 25 | 0.000770632 | 0.000184894 | 0.000149534 | 0.001616337 | 0.000344579 | 0.00027407 | 0.000756734 | 0.000184456 | 0.000149161 |
| Arsenic (As) | 0.3 | 0.003222879 | 0.000773251 | 0.00062537 | 0.005397698 | 0.001150709 | 0.000915247 | 0.003164994 | 0.000771475 | 0.000623858 |
| Barium (Ba) | 10 | 0.015407095 | 0.003696556 | 0.002989605 | 0.024808637 | 0.005288833 | 0.004206613 | 0.015148327 | 0.003692439 | 0.002985915 |
| Beryllium (Be) | 0.01 | 5.32612E-05 | 1.27787E-05 | 1.03349E-05 | 7.99689E-05 | 1.70482E-05 | 1.35597E-05 | 5.23934E-05 | 1.2771E-05 | 1.03274E-05 |
| Bismuth (Bi) | — | 3.54774E-05 | 8.51193E-06 | 6.88406E-06 | 0.000260487 | 5.55319E-05 | 4.41688E-05 | 3.49276E-05 | 8.51368E-06 | 6.88464E-06 |
| Boron (B) | 120 | 0.00579669 | 0.001390774 | 0.001124794 | 0.006548952 | 0.001396139 | 0.001110456 | 0.005692208 | 0.001387489 | 0.001122002 |
| Cadmium (Cd) | 0.025 | 0.000187059 | 4.48803E-05 | 3.62971E-05 | 0.000410926 | 8.76034E-05 | 6.96777E-05 | 0.000183733 | 4.47854E-05 | 3.6216E-05 |
| Chromium (Cr) | 1 | 0.008257671 | 0.001981227 | 0.001602325 | 0.011452643 | 0.002441534 | 0.001941938 | 0.00811802 | 0.001978786 | 0.001600158 |
| Cobalt (Co) | 0.1 | 0.019635825 | 0.004711137 | 0.003810151 | 0.022457824 | 0.004787675 | 0.003808004 | 0.019281429 | 0.004699892 | 0.003800599 |
| Copper (Cu) | 50 | 0.006890118 | 0.001653116 | 0.001336964 | 0.011482101 | 0.002447814 | 0.001946933 | 0.006769659 | 0.00165012 | 0.00133438 |
| Iron (Fe) | 4 | 3.806269318 | 0.913221448 | 0.738571452 | 3.70840415 | 0.790576715 | 0.628806064 | 3.742225419 | 0.912176007 | 0.737637093 |
| Lead (Pb) | 0.5 | 0.023627668 | 0.005668882 | 0.004584731 | 0.055405787 | 0.011811691 | 0.009394741 | 0.023200407 | 0.005655152 | 0.004573076 |
| Lithium (Li) | 20 | 0.00236495 | 0.000567412 | 0.000458897 | 0.002540617 | 0.000541622 | 0.000430793 | 0.002326301 | 0.000567041 | 0.000458541 |
| Manganese (Mn) | 0.4 | 0.078027243 | 0.018720733 | 0.015140467 | 0.085998475 | 0.018333598 | 0.014582111 | 0.076714165 | 0.018699253 | 0.015121273 |
| Mercury (Hg) | 2 | 4.53119E-05 | 1.08715E-05 | 8.79235E-06 | 5.1015E-05 | 1.08756E-05 | 8.65022E-06 | 4.44965E-05 | 1.08461E-05 | 8.77079E-06 |
| Molybdenum (Mo) | 120 | 0.000164524 | 3.94734E-05 | 3.19243E-05 | 0.000373121 | 7.95439E-05 | 6.32674E-05 | 0.000161645 | 3.94013E-05 | 3.18622E-05 |
| Nickel (Ni) | 0.04 | 0.00406078 | 0.000974285 | 0.000787957 | 0.004709919 | 0.001004085 | 0.000798625 | 0.003992882 | 0.000973274 | 0.000787044 |
| Phosphorus (P) | — | 0.094878822 | 0.022763858 | 0.01841036 | 0.105253097 | 0.022438398 | 0.017846972 | 0.093260314 | 0.022732415 | 0.018382716 |
| Selenium (Se) | 10 | 1.06756E-05 | 2.56136E-06 | 2.07151E-06 | 0.000250173 | 5.33333E-05 | 4.242E-05 | 1.05762E-05 | 2.57797E-06 | 2.08469E-06 |
| Silver (Ag) | 1 | 0.000208847 | 5.01077E-05 | 4.05248E-05 | 0.000712358 | 0.000151864 | 0.000120789 | 0.000205077 | 4.9988E-05 | 4.04231E-05 |
| Strontium (Sr) | 120 | 0.003814031 | 0.000915084 | 0.000740078 | 0.005556386 | 0.001184539 | 0.000942154 | 0.00375258 | 0.0009147 | 0.000739678 |
| Thallium (Tl) | — | 5.36578E-05 | 1.28739E-05 | 1.04118E-05 | 0.000323235 | 6.8909E-05 | 5.48086E-05 | 5.27307E-05 | 1.28532E-05 | 1.03938E-05 |
| Tin (Sn) | 10 | 0.000193477 | 4.64201E-05 | 3.75424E-05 | 0.00224396 | 0.000478379 | 0.000380491 | 0.000190436 | 4.64192E-05 | 3.75372E-05 |
| Titanium (Ti) | 120 | 0.154847821 | 0.037151956 | 0.030046791 | 0.17087541 | 0.036428101 | 0.028974052 | 0.152330807 | 0.037130983 | 0.030026212 |
| Uranium (U) | 0.06 | 0.000162396 | 3.89629E-05 | 3.15114E-05 | 0.000389839 | 8.31078E-05 | 6.6102E-05 | 0.000159541 | 3.88886E-05 | 3.14475E-05 |
| Vanadium (V) | 2 | 0.00452319 | 0.001085229 | 0.000877683 | 0.004630821 | 0.000987222 | 0.000785213 | 0.004451562 | 0.001085078 | 0.000877456 |
| Zinc (Zn) | 120 | 0.07329274 | 0.017584805 | 0.01422178 | 0.141809355 | 0.030231649 | 0.02404554 | 0.071974624 | 0.017543979 | 0.014187054 |

Table I-7: Metal Concentrations (µg/g) in Ore- 95th Percent Upper Confident Limit of the Mean

| Parameter | Mean | Std.dev | Count | TINV | UCL |
|---|---|---|---|---|---|
| Sample | — | — | 2111 | 1.645576112 | — |
| AG_PPM_ICP | 19.65756011 | 68.66220794 | 2246 | 1.645532648 | 22.04163224 |
| AL_PER_ICP | 5.440885836 | 2.702671405 | 2111 | 1.645576112 | 5.537683997 |
| AS_PPM_ICP | 75.41639034 | 201.4294286 | 2111 | 1.645576112 | 82.6307332 |
| B_PPM_ICP | — | — | 0 | — | — |
| BA_PPM_ICP | 420.7749882 | 1006.832608 | 2111 | 1.645576112 | 456.8354372 |
| BE_PPM_ICP | 1.448792042 | 0.634600453 | 2111 | 1.645576112 | 1.471520723 |
| BI_PPM_ICP | 10.11724301 | 17.72705422 | 2111 | 1.645576112 | 10.75215047 |
| CA_PER_ICP | 0.982164851 | 0.81712499 | 2111 | 1.645576112 | 1.011430782 |
| CD_PPM_ICP | 8.963145429 | 15.62569085 | 2111 | 1.645576112 | 9.522791018 |
| CE_PPM_ICP | — | — | 0 | — | — |
| CO_PPM_ICP | 9.606584557 | 6.417597197 | 2111 | 1.645576112 | 9.836435512 |
| CR_PPM_ICP | 147.7479867 | 164.1559684 | 2111 | 1.645576112 | 153.6273533 |
| CU_PPM_ICP | 179.5650407 | 406.476382 | 2214 | 1.645542471 | 193.7803267 |
| FE_PER_ICP | 2.242491121 | 1.305491461 | 1971 | 1.64562748 | 2.29088186 |
| GA_PPM_ICP | 19 | 3.077935056 | 20 | 1.729132812 | 20.19007082 |
| GE_PPM_ICP | — | — | 0 | — | — |
| HF_PPM_ICP | — | — | 0 | — | — |
| HG_PPM_ICP | — | — | 0 | — | — |
| IN_PPM_ICP | — | — | 0 | — | — |
| K_PER_ICP | 1.047908574 | 0.968927325 | 2111 | 1.645576112 | 1.082611418 |
| LA_PPM_ICP | 16 | 8.207826817 | 20 | 1.729132812 | 19.17352218 |
| LI_PPM_ICP | 17.3460067 | 13.35869543 | 2091 | 1.645583028 | 17.8267429 |
| MG_PER_ICP | 0.786456656 | 0.508175109 | 2111 | 1.645576112 | 0.80465732 |
| MN_PPM_ICP | 448.2444339 | 359.9116004 | 2111 | 1.645576112 | 461.1349321 |
| MO_PPM_ICP | 8.676930365 | 14.55939244 | 2111 | 1.645576112 | 9.198385694 |
| NA_PER_ICP61 | 0.3835 | 0.20378717 | 20 | 1.729132812 | 0.462293464 |
| NB_PPM_ICP | — | — | 0 | — | — |
| NI_PPM_ICP | 36.29914732 | 33.27548974 | 2111 | 1.645576112 | 37.49093342 |
| P_PER_ICP | — | — | 0 | — | — |
| P_PPM_ICP | 449.8559242 | 310.6177636 | 2110 | 1.645576454 | 460.9835657 |
| PARENT_SAMPLE_NUMBER | — | — | 2111 | 1.645576112 | — |
| PB_PPM_ICP | 1222.708148 | 2862.524807 | 2246 | 1.645532648 | 1322.100023 |
| PD_PPB_ALPG3 | — | — | 0 | — | — |
| PT_PPB_ALPG3 | — | — | 0 | — | — |
| RB_PPM_ICP | — | — | 0 | — | — |
| RH_PPB_ALPG3 | — | — | 0 | — | — |
| S_PER_ICP | 1.643630748 | 1.320233819 | 1457 | 1.645900842 | 1.700558593 |
| SB_PPM_ICP | 29.5675225 | 137.829915 | 2111 | 1.645576112 | 34.50400209 |
| SC_PPM_ICP | 5.6 | 4.147288271 | 20 | 1.729132812 | 7.203531802 |
| SE_PPM_ICP | 10.50095648 | 30.33276371 | 2091 | 1.645583028 | 11.59253446 |
| SN_PPM_ICP | 79.19631755 | 481.7784617 | 2091 | 1.645583028 | 96.53396485 |
| SR_PPM_ICP | 99.5594505 | 58.43233332 | 2111 | 1.645576112 | 101.6522474 |
| TA_PPM_ICP | — | — | 0 | — | — |
| TE_PPM_ICP | — | — | 0 | — | — |
| TH_PPM_ICP | 20 | 0 | 20 | 1.729132812 | 20 |
| TI_PER_ICP61 | 0.18 | 0.032281655 | 20 | 1.729132812 | 0.192481568 |
| TI_PPM_ICP | 1437.080344 | 605.4932469 | 2091 | 1.645583028 | 1458.870086 |
| TL_PPM_ICP | 10.07958314 | 65.05967232 | 2111 | 1.645576112 | 12.40974306 |
| U_PPM_ICP | 10 | 0 | 20 | 1.729132812 | 10 |
| V_PPM_ICP | 36.36144008 | 26.24652738 | 2111 | 1.645576112 | 37.30147872 |
| W_PPM_ICP | 33.54192326 | 61.99626017 | 2111 | 1.645576112 | 35.76236483 |
| WT_PER_AL908 | 4.63 | — | 1 | — | — |
| WT_PER_ALPM1 | 3.826163806 | 1.887615222 | 268 | 1.650580601 | 4.016483097 |
| Y_PPM_ICP | 5.725011956 | 4.991422397 | 2091 | 1.645583028 | 5.904637091 |
| ZN_PPM_ICP | 2583.193455 | 4856.835283 | 2246 | 1.645532648 | 2751.831284 |
| ZR_PPM_ICP | — | — | 0 | — | — |

Table I-8: Metal Concentrations (µg/g) in Waste Rock- 95th Percent Upper Confident Limit of the Mean

| Parameter | Units | All Data | | | | |
|---|---|---|---|---|---|---|
| | | Mean | Std.dev | Count | TINV | UCL |
| Al | mg/kg | 15081.988 | 10531.322 | 161 | 1.6544329 | 16455.141 |
| Sb | mg/kg | 3.0468012 | 12.639117 | 161 | 1.6544329 | 4.6947851 |
| As | mg/kg | 16.634161 | 21.721082 | 161 | 1.6544329 | 19.466321 |
| Ba | mg/kg | 71.043478 | 72.639379 | 161 | 1.6544329 | 80.514751 |
| Be | mg/kg | 0.2278882 | 0.2436427 | 161 | 1.6544329 | 0.2596562 |
| Bi | mg/kg | 0.1351553 | 0.1385285 | 161 | 1.6544329 | 0.1532177 |
| B | mg/kg | 32.244898 | 12.626907 | 49 | 1.6772242 | 35.270348 |
| Cd | mg/kg | 0.7336646 | 2.8580288 | 161 | 1.6544329 | 1.106316 |
| Ca | mg/kg | 5299.0062 | 5270.1064 | 161 | 1.6544329 | 5986.1626 |
| Ce | mg/kg | 34.142857 | 11.879797 | 49 | 1.6772242 | 36.989298 |
| Cs | mg/kg | 5.0561224 | 3.0128916 | 49 | 1.6772242 | 5.7780217 |
| Cr | mg/kg | 38.696273 | 39.330785 | 161 | 1.6544329 | 43.824519 |
| Co | mg/kg | 106.96957 | 98.453584 | 161 | 1.6544329 | 119.80669 |
| Cu | mg/kg | 30.258696 | 69.467377 | 161 | 1.6544329 | 39.316379 |
| Ga | mg/kg | 6.3204082 | 2.9149742 | 49 | 1.6772242 | 7.0188461 |
| Ge | mg/kg | 0.1040816 | 0.0199915 | 49 | 1.6772242 | 0.1088717 |
| Hf | mg/kg | 0.3793878 | 0.1367694 | 49 | 1.6772242 | 0.4121582 |
| In | mg/kg | 0.0202041 | 0.0014286 | 49 | 1.6772242 | 0.0205464 |
| Fe | mg/kg | 18490.062 | 11366.855 | 161 | 1.6544329 | 19972.159 |
| La | mg/kg | 17.379592 | 6.4261828 | 49 | 1.6772242 | 18.919327 |
| Pb | mg/kg | 99.761491 | 344.9186 | 161 | 1.6544329 | 144.73459 |
| Li | mg/kg | 10.732919 | 6.734016 | 161 | 1.6544329 | 11.610951 |
| Lu | mg/kg | 0.0326531 | 0.026597 | 49 | 1.6772242 | 0.0390258 |
| Mg | mg/kg | 8248.5714 | 4844.5636 | 161 | 1.6544329 | 8880.2423 |
| Mn | mg/kg | 383.12609 | 202.7484 | 161 | 1.6544329 | 409.56196 |
| Hg | mg/kg | 0.1330612 | 0.591341 | 49 | 1.6772242 | 0.2747486 |
| Mo | mg/kg | 0.7290683 | 1.6209109 | 161 | 1.6544329 | 0.940415 |
| Ni | mg/kg | 18.331677 | 20.53029 | 161 | 1.6544329 | 21.008572 |
| Nb | mg/kg | 0.1760204 | 0.1411153 | 49 | 1.6772242 | 0.2098321 |
| P | mg/kg | 486.12245 | 113.33608 | 49 | 1.6772242 | 513.27817 |
| K | mg/kg | 7392.5466 | 4699.9409 | 161 | 1.6544329 | 8005.3605 |
| Rb | mg/kg | 33.026531 | 18.440657 | 49 | 1.6772242 | 37.444976 |
| Sc | mg/kg | 1.9 | 2.1871785 | 49 | 1.6772242 | 2.4240555 |
| Se | mg/kg | 0.8298137 | 0.184677 | 161 | 1.6544329 | 0.8538932 |
| Ag | mg/kg | 0.8914907 | 2.9391215 | 161 | 1.6544329 | 1.2747156 |
| Na | mg/kg | 1404.0816 | 1079.7297 | 49 | 1.6772242 | 1662.7886 |
| Sr | mg/kg | 15.789441 | 17.798749 | 161 | 1.6544329 | 18.110177 |
| S | mg/kg | 8342.0497 | 9284.5881 | 161 | 1.6544329 | 9552.6447 |
| Ta | mg/kg | 0.05 | 1.402E-17 | 49 | 1.6772242 | 0.05 |
| Te | mg/kg | 0.0665306 | 0.0603997 | 49 | 1.6772242 | 0.0810026 |
| Tb | mg/kg | 0.2067347 | 0.1007966 | 49 | 1.6772242 | 0.2308859 |
| Tl | mg/kg | 0.2777019 | 0.159559 | 161 | 1.6544329 | 0.2985064 |
| Th | mg/kg | 3.5693878 | 2.862997 | 49 | 1.6772242 | 4.2553717 |
| Sn | mg/kg | 0.8173913 | 0.3688776 | 161 | 1.6544329 | 0.8654884 |
| Ti | mg/kg | 682.52174 | 523.02097 | 161 | 1.6544329 | 750.71718 |
| W | mg/kg | 0.3142857 | 1.010363 | 49 | 1.6772242 | 0.5563722 |
| U | mg/kg | 0.8245776 | 0.8643768 | 161 | 1.6544329 | 0.9372816 |
| V | mg/kg | 18.26087 | 17.975077 | 161 | 1.6544329 | 20.604596 |
| Yb | mg/kg | 0.2408163 | 0.1836191 | 49 | 1.6772242 | 0.2848121 |
| Y | mg/kg | 3.0911801 | 2.0391283 | 161 | 1.6544329 | 3.3570571 |
| Zn | mg/kg | 294.57764 | 1145.241 | 161 | 1.6544329 | 443.90284 |
| Zr | mg/kg | 14.57551 | 6.1858552 | 49 | 1.6772242 | 16.057662 |

Table I-9: Metal Concentration (µg/g) in Soils (Base Case Assessment Scenario)

| Parameter | Units | All Data | | | | |
|---|---|---|---|---|---|---|
| | | Mean | Std.dev | Count | TINV | UCL Base |
| Antimony (Sb) | µg/g | 0.5 | 0 | 25 | 1.7108821 | 0.5 |
| Arsenic (As) | µg/g | 2.896 | 1.3664065 | 25 | 1.7108821 | 3.3635521 |
| Barium (Ba) | µg/g | 95.748 | 45.117422 | 25 | 1.7108821 | 111.18612 |
| Beryllium (Be) | µg/g | 0.5144 | 0.0337984 | 25 | 1.7108821 | 0.525965 |
| Bismuth (Bi) | µg/g | 0.5 | 0 | 25 | 1.7108821 | 0.5 |
| Boron (B) | µg/g | 3.548 | 1.5924614 | 25 | 1.7108821 | 4.0929027 |
| Cadmium (Cd) | µg/g | 0.2956 | 0.228 | 25 | 1.7108821 | 0.3736162 |
| Chromium (Cr) | µg/g | 47.812 | 19.550881 | 25 | 1.7108821 | 54.50185 |
| Cobalt (Co) | µg/g | 9.928 | 4.1658853 | 25 | 1.7108821 | 11.353468 |
| Copper (Cu) | µg/g | 20.412 | 12.326 | 25 | 1.7108821 | 24.629666 |
| Iron (Fe) | µg/g | 23673.6 | 9288.8154 | 25 | 1.7108821 | 26852.014 |
| Lead (Pb) | µg/g | 8.132 | 3.487922 | 25 | 1.7108821 | 9.3254847 |
| Lithium (Li) | µg/g | 19.2 | 10.335658 | 25 | 1.7108821 | 22.736619 |
| Manganese (Mn) | µg/g | 470.52 | 230.52533 | 25 | 1.7108821 | 549.40033 |
| Mercury (Hg) | µg/g | 0.03148 | 0.0226516 | 25 | 1.7108821 | 0.0392308 |
| Molybdenum (Mo) | µg/g | 0.528 | 0.14 | 25 | 1.7108821 | 0.5759047 |
| Nickel (Ni) | µg/g | 26.616 | 12.562865 | 25 | 1.7108821 | 30.914716 |
| Phosphorus (P) | µg/g | 489.92 | 182.42143 | 25 | 1.7108821 | 552.34031 |
| Selenium (Se) | µg/g | 0.5 | 0 | 25 | 1.7108821 | 0.5 |
| Silver (Ag) | µg/g | 0.1064 | 0.032 | 25 | 1.7108821 | 0.1173496 |
| Strontium (Sr) | µg/g | 35.688 | 16.494351 | 25 | 1.7108821 | 41.331978 |
| Thallium (Tl) | µg/g | 0.25 | 0 | 25 | 1.7108821 | 0.25 |
| Tin (Sn) | µg/g | 2.5 | 0 | 25 | 1.7108821 | 2.5 |
| Titanium (Ti) | µg/g | 1354.36 | 603.61963 | 25 | 1.7108821 | 1560.9044 |
| Uranium (U) | µg/g | 0.5 | 0 | 25 | 1.7108821 | 0.5 |
| Vanadium (V) | µg/g | 49.04 | 19.272714 | 25 | 1.7108821 | 55.634668 |
| Zinc (Zn) | µg/g | 55.532 | 34.407263 | 25 | 1.7108821 | 67.305354 |

# Table I-10: Metal Concentrations (µg/g) in Soils- Study Area No. 1 (Project Alone Assessment Scenario)- 95th Percent Upper Confident Limit of the Mean

Location 1 (Operations Area)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 15.9041392 | Dustfall (µg/m²/yr) | 501552933.9 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 13.78809691 | Dustfall (µg/m²/yr) | 434821424.3 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 15.55547826 | Dustfall (µg/m²/yr) | 490557562.5 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | — | 4.205961875 | 2109.512518 | 2 | 4219.025036 | 0.00530695 | 0.00530695 | 7.798625391 | 3391.0094 | 12 | 40692.1128 | 0.051185048 | 0.056491997 | 4.202077173 | 2061.360735 | 2 | 4122.72147 | 0.005185813 | 0.06167781 | 4.202077173 | 0 | 17 | 0 | 0 | 0.06167781 |
| Arsenic (As) | — | 17.58984634 | 8822.239037 | 2 | 17644.47807 | 0.022194312 | 0.022194312 | 26.0432211 | 11324.15049 | 12 | 135889.8059 | 0.170930573 | 0.193124885 | 17.5749339 | 8621.516735 | 2 | 17243.03347 | 0.02168935 | 0.214814236 | 17.5749339 | 0 | 17 | 0 | 0 | 0.214814236 |
| Barium (Ba) | — | 84.08892108 | 42175.04508 | 2 | 84350.09016 | 0.106100742 | 0.106100742 | 119.6985819 | 52047.50787 | 12 | 624570.0944 | 0.78562276 | 0.891723503 | 84.11732519 | 41264.39001 | 2 | 82528.78002 | 0.103809786 | 0.995533289 | 84.11732519 | 0 | 17 | 0 | 0 | 0.995533289 |
| Beryllium (Be) | — | 0.29068946 | 145.7961513 | 2 | 291.5923026 | 0.000366783 | 0.000366783 | 0.38583977 | 167.7713984 | 12 | 2013.256781 | 0.002532398 | 0.002899181 | 0.290936083 | 142.7208955 | 2 | 285.441791 | 0.000359046 | 0.003258228 | 0.290936083 | 0 | 17 | 0 | 0 | 0.003258228 |
| Bismuth (Bi) | — | 0.193628618 | 97.11500148 | 2 | 194.230003 | 0.000244314 | 0.000244314 | 1.256815761 | 546.4904191 | 12 | 6557.885029 | 0.008248912 | 0.008493226 | 0.193949766 | 95.1435244 | 2 | 190.2870488 | 0.000239355 | 0.008732581 | 0.193949766 | 0 | 17 | 0 | 0 | 0.008732581 |
| Boron (B) | — | 31.63720439 | 15867.73268 | 2 | 31735.46537 | 0.039918824 | 0.039918824 | 31.59787597 | 13739.43343 | 12 | 164873.2012 | 0.207387674 | 0.247306499 | 31.60833162 | 15505.70611 | 2 | 31011.41222 | 0.039008066 | 0.286314565 | 31.60833162 | 0 | 17 | 0 | 0 | 0.286314565 |
| Cadmium (Cd) | — | 1.020933681 | 512.0522831 | 2 | 1024.104566 | 0.001288182 | 0.001288182 | 1.982668966 | 862.1069436 | 12 | 10345.28332 | 0.013012935 | 0.014301117 | 1.020255143 | 500.4938762 | 2 | 1000.987752 | 0.001259104 | 0.015560221 | 1.020255143 | 0 | 17 | 0 | 0 | 0.015560221 |
| Chromium (Cr) | — | 45.0687609 | 22604.36926 | 2 | 45208.73851 | 0.056866338 | 0.056866338 | 55.25757562 | 24027.17773 | 12 | 288326.1328 | 0.362674381 | 0.419540719 | 45.07864895 | 22113.67215 | 2 | 44227.3443 | 0.05563188 | 0.475172598 | 45.07864895 | 0 | 17 | 0 | 0 | 0.475172598 |
| Cobalt (Co) | — | 107.1685093 | 53750.68028 | 2 | 107501.3606 | 0.135221837 | 0.135221837 | 108.3562008 | 47115.59754 | 12 | 565387.1705 | 0.711178831 | 0.846400668 | 107.0680731 | 52523.05296 | 2 | 105046.1059 | 0.132133467 | 0.978534135 | 107.0680731 | 0 | 17 | 0 | 0 | 0.978534135 |
| Copper (Cu) | — | 37.60491899 | 18860.85745 | 2 | 37721.7149 | 0.047448698 | 0.047448698 | 55.39970721 | 24088.97959 | 12 | 289067.7551 | 0.363607239 | 0.411055937 | 37.59131793 | 18440.7053 | 2 | 36881.41059 | 0.046391711 | 0.457447649 | 37.59131793 | 0 | 17 | 0 | 0 | 0.457447649 |
| Iron (Fe) | — | 20773.87634 | 10419198.63 | 2 | 20838397.26 | 26.21182045 | 26.21182045 | 17892.58756 | 7780080.408 | 12 | 93360964.9 | 117.435176 | 143.6469964 | 20780.24763 | 10193907.63 | 2 | 20387815.25 | 25.64505063 | 169.2920471 | 20780.24763 | 0 | 17 | 0 | 0 | 169.2920471 |
| Lead (Pb) | — | 128.9552105 | 64677.86415 | 2 | 129355.7283 | 0.162711608 | 0.162711608 | 267.3260135 | 116239.0779 | 12 | 1394868.935 | 1.754552119 | 1.917263727 | 128.8298109 | 63198.43803 | 2 | 126396.8761 | 0.158989781 | 2.076253509 | 128.8298109 | 0 | 17 | 0 | 0 | 2.076253509 |
| Lithium (Li) | — | 12.90743827 | 6473.763532 | 2 | 12947.52706 | 0.016286198 | 0.016286198 | 12.25816134 | 5330.111174 | 12 | 63961.33409 | 0.080454508 | 0.096740706 | 12.91774151 | 6336.89579 | 2 | 12673.79158 | 0.015941876 | 0.112682582 | 12.91774151 | 0 | 17 | 0 | 0 | 0.112682582 |
| Manganese (Mn) | — | 425.8574877 | 213590.0724 | 2 | 427180.1448 | 0.537333515 | 0.537333515 | 414.9319183 | 180421.2877 | 12 | 2165055.452 | 2.723340192 | 3.260673707 | 425.9869891 | 208971.139 | 2 | 417942.278 | 0.525713557 | 3.786387264 | 425.9869891 | 0 | 17 | 0 | 0 | 3.786387264 |
| Mercury (Hg) | — | 0.247303416 | 124.035754 | 2 | 248.071508 | 0.00031204 | 0.00031204 | 0.246140787 | 107.0272877 | 12 | 1284.327452 | 0.001615506 | 0.001927546 | 0.247085308 | 121.2095665 | 2 | 242.4191331 | 0.00030493 | 0.002232476 | 0.247085308 | 0 | 17 | 0 | 0 | 0.002232476 |
| Molybdenum (Mo) | — | 0.897938167 | 450.3635223 | 2 | 900.7270446 | 0.00113299 | 0.00113299 | 1.800263876 | 782.7933026 | 12 | 9393.519631 | 0.011815748 | 0.012948738 | 0.897606002 | 440.3247634 | 2 | 880.6495269 | 0.001107735 | 0.014056473 | 0.897606002 | 0 | 17 | 0 | 0 | 0.014056473 |
| Nickel (Ni) | — | 22.16294633 | 11115.89076 | 2 | 22231.78151 | 0.027964505 | 0.027964505 | 22.72477316 | 9881.218231 | 12 | 118574.6188 | 0.149150464 | 0.177114969 | 22.1721202 | 10876.70124 | 2 | 21753.40248 | 0.02736277 | 0.204477739 | 22.1721202 | 0 | 17 | 0 | 0 | 0.204477739 |
| Phosphorus (P) | — | 517.8301236 | 259719.2178 | 2 | 519438.4355 | 0.65338168 | 0.65338168 | 507.8330691 | 220816.6984 | 12 | 2649800.381 | 3.33308224 | 3.98646392 | 517.8662983 | 254043.229 | 2 | 508086.4579 | 0.639102463 | 4.625566383 | 517.8662983 | 0 | 17 | 0 | 0 | 4.625566383 |
| Selenium (Se) | — | 0.058265583 | 29.22327393 | 2 | 58.44654785 | 7.35177E-05 | 7.35177E-05 | 1.207055384 | 524.8535412 | 12 | 6298.242495 | 0.007922318 | 0.007995835 | 0.058728622 | 28.80976972 | 2 | 57.61953945 | 7.24774E-05 | 0.008068313 | 0.058728622 | 0 | 17 | 0 | 0 | 0.008068313 |
| Silver (Ag) | — | 1.139846415 | 571.6933135 | 2 | 1143.386627 | 0.001438222 | 0.001438222 | 3.437039883 | 1494.498577 | 12 | 17933.98292 | 0.022558469 | 0.023996691 | 1.138774602 | 558.6344932 | 2 | 1117.268986 | 0.00140537 | 0.025402061 | 1.138774602 | 0 | 17 | 0 | 0 | 0.025402061 |
| Strontium (Sr) | — | 20.81624026 | 10440.44637 | 2 | 20880.89275 | 0.026265274 | 0.026265274 | 26.8088704 | 11657.07121 | 12 | 139884.8545 | 0.175955792 | 0.202221066 | 20.83774548 | 10222.11363 | 2 | 20444.22726 | 0.025716009 | 0.227937075 | 20.83774548 | 0 | 17 | 0 | 0 | 0.227937075 |
| Thallium (Tl) | — | 0.292853866 | 146.8817155 | 2 | 293.763431 | 0.000369514 | 0.000369514 | 1.559570851 | 678.1348187 | 12 | 8137.617824 | 0.010235997 | 0.010605511 | 0.292808945 | 143.6396423 | 2 | 287.2792845 | 0.000361358 | 0.010966869 | 0.292808945 | 0 | 17 | 0 | 0 | 0.010966869 |
| Tin (Sn) | — | 1.055959902 | 529.6197872 | 2 | 1059.239574 | 0.001332377 | 0.001332377 | 10.82682598 | 4707.735892 | 12 | 56492.83071 | 0.071060164 | 0.072392541 | 1.057473589 | 518.7516664 | 2 | 1037.503333 | 0.001305036 | 0.073697577 | 1.057473589 | 0 | 17 | 0 | 0 | 0.073697577 |
| Titanium (Ti) | — | 845.1292387 | 423877.0492 | 2 | 847754.0984 | 1.066357357 | 1.066357357 | 824.4525443 | 358489.6295 | 12 | 4301875.555 | 5.41116422 | 6.477521576 | 845.8795361 | 414952.6034 | 2 | 829905.2068 | 1.04390592 | 7.521427497 | 845.8795361 | 0 | 17 | 0 | 0 | 7.521427497 |
| Uranium (U) | — | 0.886324697 | 444.5387521 | 2 | 889.0775041 | 0.001118336 | 0.001118336 | 1.880923687 | 817.8659164 | 12 | 9814.390996 | 0.012345146 | 0.013463482 | 0.885919739 | 434.594628 | 2 | 869.1892559 | 0.00109332 | 0.014556802 | 0.885919739 | 0 | 17 | 0 | 0 | 0.014556802 |
| Vanadium (V) | — | 24.68669143 | 12381.68252 | 2 | 24763.36503 | 0.031148887 | 0.031148887 | 22.34313435 | 9715.273501 | 12 | 116583.282 | 0.146645638 | 0.177794525 | 24.71913205 | 12126.15716 | 2 | 24252.31433 | 0.030506056 | 0.20830058 | 24.71913205 | 0 | 17 | 0 | 0 | 0.20830058 |
| Zinc (Zn) | — | 400.0174966 | 200629.949 | 2 | 401259.898 | 0.504729431 | 0.504729431 | 684.2124522 | 297510.2329 | 12 | 3570122.795 | 4.490720497 | 4.995449929 | 399.6687376 | 196060.5217 | 2 | 392121.0434 | 0.493234017 | 5.488683946 | 399.6687376 | 0 | 17 | 0 | 0 | 5.488683946 |
| Aluminum (Al) | — | 14537.60434 | 7291378.109 | 2 | 14582756.22 | 18.34308958 | 18.34308958 | 14741.77405 | 6410039.189 | 12 | 76920470.26 | 96.75530851 | 115.0983981 | 14522.36558 | 7124056.261 | 2 | 14248112.52 | 17.92215412 | 133.0205522 | 14522.36558 | 0 | 17 | 0 | 0 | 133.0205522 |
| Calcium (Ca) | — | 5288.588118 | 2652506.887 | 2 | 5305013.773 | 6.6729733 | 6.6729733 | 5362.862357 | 2331887.448 | 12 | 27982649.38 | 35.1983011 | 41.8712744 | 5283.044459 | 2591637.412 | 2 | 5183274.824 | 6.519842546 | 48.39111695 | 5283.044459 | 0 | 17 | 0 | 0 | 48.39111695 |
| Cerium (Ce) | — | 32.67889168 | 16390.194 | 2 | 32780.38799 | 0.041233192 | 0.041233192 | 33.13784211 | 14409.0437 | 12 | 172908.5244 | 0.217494999 | 0.258728192 | 32.64463667 | 16014.07339 | 2 | 32028.14678 | 0.040286977 | 0.299015169 | 32.64463667 | 0 | 17 | 0 | 0 | 0.299015169 |
| Cesium (Cs) | — | 5.104702094 | 2560.278312 | 2 | 5120.556624 | 0.006440952 | 0.006440952 | 5.176393792 | 2250.806921 | 12 | 27009.68305 | 0.033974444 | 0.040415396 | 5.099351189 | 2501.52529 | 2 | 5003.05058 | 0.006293145 | 0.046708541 | 5.099351189 | 0 | 17 | 0 | 0 | 0.046708541 |
| Gallium (Ga) | — | 6.200931756 | 3110.095515 | 2 | 6220.19103 | 0.00782414 | 0.00782414 | 8.390280227 | 3648.273598 | 12 | 43779.28318 | 0.055068281 | 0.06289242 | 6.19443175 | 3038.725341 | 2 | 6077.450681 | 0.007644592 | 0.070537012 | 6.19443175 | 0 | 17 | 0 | 0 | 0.070537012 |
| Germanium (Ge) | — | 0.096184722 | 48.24172954 | 2 | 96.48345907 | 0.000121363 | 0.000121363 | 0.097535564 | 42.41055288 | 12 | 508.9266346 | 0.000640159 | 0.000761522 | 0.096083898 | 47.13468294 | 2 | 94.26936588 | 0.000118578 | 0.0008801 | 0.096083898 | 0 | 17 | 0 | 0 | 0.0008801 |
| Hafnium (Hf) | — | 0.364128902 | 182.6299193 | 2 | 365.2598387 | 0.000459446 | 0.000459446 | 0.369242819 | 160.5546884 | 12 | 1926.65626 | 0.002423467 | 0.002882913 | 0.363747211 | 178.4389454 | 2 | 356.8778908 | 0.000448903 | 0.003331816 | 0.363747211 | 0 | 17 | 0 | 0 | 0.003331816 |
| Indium (In) | — | 0.01815208 | 9.10422877 | 2 | 18.20845754 | 2.29037E-05 | 2.29037E-05 | 0.018407012 | 8.003763119 | 12 | 96.04515743 | 0.000120812 | 0.000143715 | 0.018133052 | 8.895305798 | 2 | 17.7906116 | 2.23781E-05 | 0.000166093 | 0.018133052 | 0 | 17 | 0 | 0 | 0.000166093 |
| Lanthanum (La) | — | 16.71463616 | 8383.274808 | 2 | 16766.54962 | 0.02109 | 0.02109 | 18.94579509 | 8238.037604 | 12 | 98856.45124 | 0.124347737 | 0.145437737 | 16.69711537 | 8190.896219 | 2 | 16381.79244 | 0.020606028 | 0.166043765 | 16.69711537 | 0 | 17 | 0 | 0 | 0.166043765 |
| Luthetium (Lu) | — | 0.034478063 | 17.29257381 | 2 | 34.58514762 | 4.35033E-05 | 4.35033E-05 | 0.034962282 | 15.20234915 | 12 | 182.4281898 | 0.000229469 | 0.000272973 | 0.034441922 | 16.89574548 | 2 | 33.79149096 | 4.2505E-05 | 0.000315478 | 0.034441922 | 0 | 17 | 0 | 0 | 0.000315478 |
| Magnesium (Mg) | — | 7845.417352 | 3934892.091 | 2 | 7869784.181 | 9.899099599 | 9.899099599 | 7955.600333 | 3459265.468 | 12 | 41511185.61 | 52.21532781 | 62.11442741 | 7837.193547 | 3844594.563 | 2 | 7689189.126 | 9.671936008 | 71.78636342 | 7837.193547 | 0 | 17 | 0 | 0 | 71.78636342 |
| Niobium (Nb) | — | 0.185380135 | 92.97795036 | 2 | 185.9559007 | 0.000233907 | 0.000233907 | 0.187983659 | 81.73932233 | 12 | 980.871868 | 0.001233801 | 0.001467708 | 0.185185813 | 90.84430124 | 2 | 181.6886025 | 0.000228539 | 0.001696247 | 0.185185813 | 0 | 17 | 0 | 0 | 0.001696247 |
| Potassium (K) | — | 7072.486505 | 3547226.357 | 2 | 7094452.714 | 8.923839891 | 8.923839891 | 7171.814255 | 3118458.489 | 12 | 37421501.86 | 47.07107153 | 55.99491142 | 7065.07291 | 3465824.945 | 2 | 6931649.891 | 8.719056466 | 64.71396789 | 7065.07291 | 0 | 17 | 0 | 0 | 64.71396789 |
| Rubidium (Rb) | — | 33.08146907 | 16592.10787 | 2 | 33184.21574 | 0.041741152 | 0.041741152 | 33.5460734 | 14586.55141 | 12 | 175038.617 | 0.220174361 | 0.261915513 | 33.04679206 | 16211.35376 | 2 | 32422.70753 | 0.04078328 | 0.302698793 | 33.04679206 | 0 | 17 | 0 | 0 | 0.302698793 |
| Scandium (Sc) | — | 2.141577523 | 1074.11449 | 2 | 2148.22898 | 0.002702175 | 0.002702175 | 2.921711387 | 1270.422707 | 12 | 15245.07248 | 0.019176192 | 0.021878367 | 2.139332657 | 1049.465813 | 2 | 2098.931627 | 0.002640166 | 0.024518532 | 2.139332657 | 0 | 17 | 0 | 0 | 0.024518532 |
| Sodium (Na) | — | 1469.021918 | 736792.2527 | 2 | 1473584.505 | 1.853565416 | 1.853565416 | 1489.653225 | 647733.1368 | 12 | 7772797.641 | 9.777103951 | 11.63066937 | 1467.482044 | 719884.4145 | 2 | 1439768.829 | 1.811029974 | 13.44169934 | 1467.482044 | 0 | 17 | 0 | 0 | 13.44169934 |
| Sulphur (S) | — | 8439.463839 | 4232837.849 | 2 | 8465675.698 | 10.64864868 | 10.64864868 | 8557.989755 | 3721197.294 | 12 | 44654367.53 | 56.16901576 | 66.81766444 | 8430.617335 | 4135703.09 | 2 | 8271406.181 | 10.4042845 | 77.22194894 | 8430.617335 | 0 | 17 | 0 | 0 | 77.22194894 |
| Tantalum (Ta) | — | 0.044173442 | 22.1553193 | 2 | 44.31063861 | 5.57367E-05 | 5.57367E-05 | 0.044793824 | 19.47731455 | 12 | 233.7277747 | 0.000293997 | 0.000349734 | 0.044127138 | 21.64690115 | 2 | 43.29380231 | 5.44576E-05 | 0.000404191 | 0.044127138 | 0 | 17 | 0 | 0 | 0.000404191 |
| Technetium (Te) | — | 0.071563273 | 35.89276936 | 2 | 71.78553872 | 9.02963E-05 | 9.02963E-05 | 0.072568325 | 31.55426241 | 12 | 378.651149 | 0.000476291 | 0.000566587 | 0.071488258 | 35.06910552 | 2 | 70.13821104 | 8.82242E-05 | 0.000654811 | 0.071488258 | 0 | 17 | 0 | 0 | 0.000654811 |
| Terbium (Tb) | — | 0.203980498 | 102.3070172 | 2 | 204.6140344 | 0.000257376 | 0.000257376 | 0.20684525 | 89.9407464 | 12 | 1079.288957 | 0.001357596 | 0.001614972 | 0.203766679 | 99.95928553 | 2 | 199.9185711 | 0.00025147 | 0.001866442 | 0.203766679 | 0 | 17 | 0 | 0 | 0.001866442 |
| Thorium (Th) | — | 3.759488301 | 1885.582387 | 2 | 3771.164775 | 0.004743603 | 0.004743603 | 5.894757696 | 2563.166937 | 12 | 30758.00324 | 0.038689312 | 0.043432916 | 3.755547491 | 1842.312223 | 2 | 3684.624446 | 0.004634748 | 0.048067663 | 3.755547491 | 0 | 17 | 0 | 0 | 0.048067663 |
| Tungsten (W) | — | 0.491537477 | 246.5320636 | 2 | 493.0641271 | 0.000620206 | 0.000620206 | 4.222143723 | 1835.878547 | 12 | 22030.54256 | 0.027711374 | 0.028331581 | 0.491022232 | 240.8746693 | 2 | 481.7493387 | 0.000605974 | 0.028937555 | 0.491022232 | 0 | 17 | 0 | 0 | 0.028937555 |
| Ytterbium (Yb) | — | 0.251622619 | 126.2020629 | 2 | 252.4041258 | 0.000317489 | 0.000317489 | 0.255156469 | 110.9474995 | 12 | 1331.369993 | 0.001674679 | 0.001992169 | 0.251358861 | 123.30599 | 2 | 246.61198 | 0.000310204 | 0.002302372 | 0.251358861 | 0 | 17 | 0 | 0 | 0.002302372 |
| Yttrium (Y) | — | 2.965855347 | 1487.533451 | 2 | 2975.066901 | 0.003742223 | 0.003742223 | 3.622320095 | 1575.062383 | 12 | 18900.74859 | 0.023774527 | 0.027516749 | 2.962746447 | 1453.397675 | 2 | 2906.795351 | 0.003656346 | 0.031173095 | 2.962746447 | 0 | 17 | 0 | 0 | 0.031173095 |
| Zirconium (Zr) | — | 14.18644437 | 7115.252794 | 2 | 14230.50559 | 0.017900007 | 0.017900007 | 14.3856823 | 6255.202866 | 12 | 75062.4344 | 0.094418156 | 0.112318164 | 14.1715737 | 6951.972653 | 2 | 13903.94531 | 0.017489239 | 0.129807403 | 14.1715737 | 0 | 17 | 0 | 0 | 0.129807403 |

# Table I-11: Metal Concentrations (µg/g) in Soils- Study Area No. 1 (Project Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

Location 1 (Operations Area)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 15.9041392 | Dustfall (µg/m²/yr) | 501552933.9 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 13.78809691 | Dustfall (µg/m²/yr) | 434821424.3 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 15.55547826 | Dustfall (µg/m²/yr) | 490557562.5 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | 0.5 | 4.205961875 | 2109.512518 | 2 | 4219.025036 | 0.00530695 | 0.50530695 | 7.798625391 | 3391.0094 | 12 | 40692.1128 | 0.051185048 | 0.556491997 | 4.202077173 | 2061.360735 | 2 | 4122.72147 | 0.005185813 | 0.56167781 | 4.202077173 | 0 | 17 | 0 | 0 | 0.56167781 |
| Arsenic (As) | 3.363552072 | 17.58984634 | 8822.239037 | 2 | 17644.47807 | 0.022194312 | 3.385746384 | 26.0432211 | 11324.15049 | 12 | 135889.8059 | 0.170930573 | 3.556676957 | 17.5749339 | 8621.516735 | 2 | 17243.03347 | 0.02168935 | 3.578366308 | 17.5749339 | 0 | 17 | 0 | 0 | 3.578366308 |
| Barium (Ba) | 111.1861178 | 84.08892108 | 42175.04508 | 2 | 84350.09016 | 0.106100742 | 111.2922185 | 119.6985819 | 52047.50787 | 12 | 624570.0944 | 0.78562276 | 112.0778413 | 84.11732519 | 41264.39001 | 2 | 82528.78002 | 0.103809786 | 112.181651 | 84.11732519 | 0 | 17 | 0 | 0 | 112.181651 |
| Beryllium (Be) | 0.525965023 | 0.29068946 | 145.7961513 | 2 | 291.5923026 | 0.000366783 | 0.526331806 | 0.38583977 | 167.7713984 | 12 | 2013.256781 | 0.002532398 | 0.528864204 | 0.290936083 | 142.7208955 | 2 | 285.441791 | 0.000359046 | 0.52922325 | 0.290936083 | 0 | 17 | 0 | 0 | 0.52922325 |
| Bismuth (Bi) | 0.5 | 0.193628618 | 97.11500148 | 2 | 194.230003 | 0.000244314 | 0.500244314 | 1.256815761 | 546.4904191 | 12 | 6557.885029 | 0.008248912 | 0.508493226 | 0.193949766 | 95.1435244 | 2 | 190.2870488 | 0.000239355 | 0.508732581 | 0.193949766 | 0 | 17 | 0 | 0 | 0.508732581 |
| Boron (B) | 4.092902737 | 31.63720439 | 15867.73268 | 2 | 31735.46537 | 0.039918824 | 4.132821561 | 31.59787597 | 13739.43343 | 12 | 164873.2012 | 0.207387674 | 4.340209236 | 31.60833162 | 15505.70611 | 2 | 31011.41222 | 0.039008066 | 4.379217301 | 31.60833162 | 0 | 17 | 0 | 0 | 4.379217301 |
| Cadmium (Cd) | 0.373616223 | 1.020933681 | 512.0522831 | 2 | 1024.104566 | 0.001288182 | 0.374904405 | 1.982668966 | 862.1069436 | 12 | 10345.28332 | 0.013012935 | 0.38791734 | 1.020255143 | 500.4938762 | 2 | 1000.987752 | 0.001259104 | 0.389176444 | 1.020255143 | 0 | 17 | 0 | 0 | 0.389176444 |
| Chromium (Cr) | 54.50185026 | 45.0687609 | 22604.36926 | 2 | 45208.73851 | 0.056866338 | 54.5587166 | 55.25757562 | 24027.17773 | 12 | 288326.1328 | 0.362674381 | 54.92139098 | 45.07864895 | 22113.67215 | 2 | 44227.3443 | 0.05563188 | 54.97702286 | 45.07864895 | 0 | 17 | 0 | 0 | 54.97702286 |
| Cobalt (Co) | 11.35346769 | 107.1685093 | 53750.68028 | 2 | 107501.3606 | 0.135221837 | 11.48868952 | 108.3562008 | 47115.59754 | 12 | 565387.1705 | 0.711778831 | 12.19986836 | 107.0680731 | 52523.05296 | 2 | 105046.1059 | 0.132133467 | 12.33200182 | 107.0680731 | 0 | 17 | 0 | 0 | 12.33200182 |
| Copper (Cu) | 24.62966637 | 37.60491899 | 18860.85745 | 2 | 37721.7149 | 0.047448698 | 24.67711507 | 55.39970721 | 24088.97959 | 12 | 289067.7551 | 0.363607239 | 25.04072231 | 37.59131793 | 18440.7053 | 2 | 36881.41059 | 0.046391711 | 25.08711402 | 37.59131793 | 0 | 17 | 0 | 0 | 25.08711402 |
| Iron (Fe) | 26852.01355 | 20773.87634 | 10419198.63 | 2 | 20838397.26 | 26.21182045 | 26878.22537 | 17892.58756 | 7780080.408 | 12 | 93360964.9 | 117.435176 | 26995.66054 | 20780.24763 | 10193907.63 | 2 | 20387815.25 | 25.64505063 | 27021.30559 | 20780.24763 | 0 | 17 | 0 | 0 | 27021.30559 |
| Lead (Pb) | 9.325484655 | 128.9552105 | 64677.86415 | 2 | 129355.7283 | 0.162711608 | 9.488196263 | 267.3260135 | 116239.0779 | 12 | 1394868.935 | 1.754552119 | 11.24274838 | 128.8298109 | 63198.43803 | 2 | 126396.8761 | 0.158989781 | 11.40173816 | 128.8298109 | 0 | 17 | 0 | 0 | 11.40173816 |
| Lithium (Li) | 22.73661853 | 12.90743827 | 6473.763532 | 2 | 12947.52706 | 0.016286198 | 22.75290473 | 12.25816134 | 5330.111174 | 12 | 63961.33409 | 0.080454508 | 22.83335923 | 12.91774151 | 6336.89579 | 2 | 12673.79158 | 0.015941876 | 22.84930111 | 12.91774151 | 0 | 17 | 0 | 0 | 22.84930111 |
| Manganese (Mn) | 549.4003304 | 425.8574877 | 213590.0724 | 2 | 427180.1448 | 0.537333515 | 549.9376639 | 414.9319183 | 180421.2877 | 12 | 2165055.452 | 2.723340192 | 552.6610041 | 425.9869891 | 208971.139 | 2 | 417942.278 | 0.525713557 | 553.1867177 | 425.9869891 | 0 | 17 | 0 | 0 | 553.1867177 |
| Mercury (Hg) | 0.039230831 | 0.247303416 | 124.035754 | 2 | 248.071508 | 0.00031204 | 0.03954287 | 0.246140787 | 107.0272877 | 12 | 1284.327452 | 0.001615506 | 0.041158377 | 0.247085308 | 121.2095665 | 2 | 242.4191331 | 0.00030493 | 0.041463306 | 0.247085308 | 0 | 17 | 0 | 0 | 0.041463306 |
| Molybdenum (Mo) | 0.575904698 | 0.897938167 | 450.3635223 | 2 | 900.7270446 | 0.00113299 | 0.577037688 | 1.800263876 | 782.7933026 | 12 | 9393.519631 | 0.011815748 | 0.588853436 | 0.897600602 | 440.3247634 | 2 | 880.6495269 | 0.001107735 | 0.589961171 | 0.897600602 | 0 | 17 | 0 | 0 | 0.589961171 |
| Nickel (Ni) | 30.91471598 | 22.16294633 | 11115.89076 | 2 | 22231.78151 | 0.027964505 | 30.94268048 | 22.72477316 | 9881.218231 | 12 | 118574.6188 | 0.149150464 | 31.09183095 | 22.1721202 | 10876.70124 | 2 | 21753.40248 | 0.02736277 | 31.11919372 | 22.1721202 | 0 | 17 | 0 | 0 | 31.11919372 |
| Phosphorus (P) | 552.3403097 | 517.8301236 | 259719.2178 | 2 | 519438.4355 | 0.65338168 | 552.9936914 | 507.8330691 | 220816.6984 | 12 | 2649800.381 | 3.33308224 | 556.3267737 | 517.8662983 | 254043.229 | 2 | 508086.4579 | 0.639102463 | 556.9658761 | 517.8662983 | 0 | 17 | 0 | 0 | 556.9658761 |
| Selenium (Se) | 0.5 | 0.058265583 | 29.22327393 | 2 | 58.44654785 | 7.35177E-05 | 0.500073518 | 1.207055384 | 524.8535412 | 12 | 6298.242496 | 0.007922318 | 0.507995835 | 0.058728622 | 28.80976972 | 2 | 57.61953945 | 7.24774E-05 | 0.508068313 | 0.058728622 | 0 | 17 | 0 | 0 | 0.508068313 |
| Silver (Ag) | 0.117349645 | 1.139846415 | 571.6933135 | 2 | 1143.386627 | 0.001438222 | 0.118787867 | 3.437039883 | 1494.498577 | 12 | 17933.98292 | 0.022558469 | 0.141346337 | 1.138774602 | 558.6344932 | 2 | 1117.268986 | 0.00140537 | 0.142751706 | 1.138774602 | 0 | 17 | 0 | 0 | 0.142751706 |
| Strontium (Sr) | 41.33197775 | 20.81624026 | 10440.44637 | 2 | 20880.89275 | 0.026265274 | 41.35824303 | 26.8088704 | 11657.07121 | 12 | 139884.8545 | 0.175955792 | 41.53419882 | 20.83774548 | 10222.11363 | 2 | 20444.22726 | 0.025716009 | 41.55991483 | 20.83774548 | 0 | 17 | 0 | 0 | 41.55991483 |
| Thallium (Tl) | 0.25 | 0.292853866 | 146.8817155 | 2 | 293.763431 | 0.000369514 | 0.250369514 | 1.559570851 | 678.1348187 | 12 | 8137.617824 | 0.010235997 | 0.260605511 | 0.292808945 | 143.6396423 | 2 | 287.2792845 | 0.000361358 | 0.260966869 | 0.292808945 | 0 | 17 | 0 | 0 | 0.260966869 |
| Tin (Sn) | 2.5 | 1.055959902 | 529.6197872 | 2 | 1059.239574 | 0.001332377 | 2.501332377 | 10.82682598 | 4707.735892 | 12 | 56492.83071 | 0.071060164 | 2.572392541 | 1.057473589 | 518.7516664 | 2 | 1037.503333 | 0.001305036 | 2.573697577 | 1.057473589 | 0 | 17 | 0 | 0 | 2.573697577 |
| Titanium (Ti) | 1560.904401 | 845.1292387 | 423877.0492 | 2 | 847754.0984 | 1.066357357 | 1561.970759 | 824.4525443 | 358489.6295 | 12 | 4301875.555 | 5.41116422 | 1567.381923 | 845.8795361 | 414952.6034 | 2 | 829905.2068 | 1.04390592 | 1568.425829 | 845.8795361 | 0 | 17 | 0 | 0 | 1568.425829 |
| Uranium (U) | 0.5 | 0.886324697 | 444.5387521 | 2 | 889.0775041 | 0.001118336 | 0.501118336 | 1.880923687 | 817.8659164 | 12 | 9814.390996 | 0.012345146 | 0.513463482 | 0.885919739 | 434.594628 | 2 | 869.1892559 | 0.00109332 | 0.514556802 | 0.885919739 | 0 | 17 | 0 | 0 | 0.514556802 |
| Vanadium (V) | 55.63466816 | 24.68669143 | 12381.68252 | 2 | 24763.36503 | 0.031148887 | 55.66581705 | 22.34313435 | 9715.273501 | 12 | 116583.282 | 0.146645638 | 55.81246268 | 24.71913205 | 12126.15716 | 2 | 24252.31433 | 0.030506056 | 55.84296874 | 24.71913205 | 0 | 17 | 0 | 0 | 55.84296874 |
| Zinc (Zn) | 67.30535403 | 400.0174966 | 200629.949 | 2 | 401259.898 | 0.504729431 | 67.81008347 | 684.2124522 | 297510.2329 | 12 | 3570122.795 | 4.490720497 | 72.30080396 | 399.6687376 | 196060.5217 | 2 | 392121.0434 | 0.493234017 | 72.79403798 | 399.6687376 | 0 | 17 | 0 | 0 | 72.79403798 |
| Aluminum (Al) | — | 14537.60434 | 7291378.109 | 2 | 14582756.22 | 18.34308958 | 18.34308958 | 14741.77405 | 6410039.189 | 12 | 76920470.26 | 96.75530851 | 115.0983981 | 14522.36558 | 7124056.261 | 2 | 14248112.52 | 17.92215412 | 133.0205522 | 14522.36558 | 0 | 17 | 0 | 0 | 133.0205522 |
| Calcium (Ca) | — | 5288.588118 | 2652506.887 | 2 | 5305013.773 | 6.6729733 | 6.6729733 | 5362.862357 | 2331887.448 | 12 | 27982649.38 | 35.1983011 | 41.8712744 | 5283.044459 | 2591637.412 | 2 | 5183274.824 | 6.519842546 | 48.39111695 | 5283.044459 | 0 | 17 | 0 | 0 | 48.39111695 |
| Cerium (Ce) | — | 32.67889168 | 16390.194 | 2 | 32780.38799 | 0.041233192 | 0.041233192 | 33.13784211 | 14409.0437 | 12 | 172908.5244 | 0.217494999 | 0.258728192 | 32.64463667 | 16014.07339 | 2 | 32028.14678 | 0.040286977 | 0.299015169 | 32.64463667 | 0 | 17 | 0 | 0 | 0.299015169 |
| Cesium (Cs) | — | 5.104702094 | 2560.278312 | 2 | 5120.556624 | 0.006440952 | 0.006440952 | 5.176393792 | 2250.806921 | 12 | 27009.68305 | 0.033974444 | 0.040415396 | 5.099351189 | 2501.52529 | 2 | 5003.05058 | 0.006293145 | 0.046708541 | 5.099351189 | 0 | 17 | 0 | 0 | 0.046708541 |
| Gallium (Ga) | — | 6.200931756 | 3110.095515 | 2 | 6220.19103 | 0.00782414 | 0.00782414 | 8.390280227 | 3648.273598 | 12 | 43779.28318 | 0.055068281 | 0.06289242 | 6.19443175 | 3038.725341 | 2 | 6077.450681 | 0.007644592 | 0.070537012 | 6.19443175 | 0 | 17 | 0 | 0 | 0.070537012 |
| Germanium (Ge) | — | 0.096184722 | 48.24172954 | 2 | 96.48345907 | 0.000121363 | 0.000121363 | 0.097535564 | 42.41055288 | 12 | 508.9266346 | 0.000640159 | 0.000761522 | 0.096083898 | 47.13468294 | 2 | 94.26936588 | 0.000118578 | 0.0008801 | 0.096083898 | 0 | 17 | 0 | 0 | 0.0008801 |
| Hafnium (Hf) | — | 0.364128902 | 182.6299193 | 2 | 365.2598387 | 0.000459446 | 0.000459446 | 0.369242819 | 160.5546884 | 12 | 1926.65626 | 0.002423467 | 0.002882913 | 0.363747211 | 178.4389454 | 2 | 356.8778908 | 0.000448903 | 0.003331816 | 0.363747211 | 0 | 17 | 0 | 0 | 0.003331816 |
| Indium (In) | — | 0.01815208 | 9.10422877 | 2 | 18.20845754 | 2.29037E-05 | 2.29037E-05 | 0.018407012 | 8.003763119 | 12 | 96.04515743 | 0.000120812 | 0.000143715 | 0.018133052 | 8.895305798 | 2 | 17.7906116 | 2.23781E-05 | 0.000166093 | 0.018133052 | 0 | 17 | 0 | 0 | 0.000166093 |
| Lanthanum (La) | — | 16.71463616 | 8383.274808 | 2 | 16766.54962 | 0.02109 | 0.02109 | 18.94579509 | 8238.037604 | 12 | 98856.45124 | 0.124347737 | 0.145437737 | 16.69711537 | 8190.896219 | 2 | 16381.79244 | 0.020606028 | 0.166043765 | 16.69711537 | 0 | 17 | 0 | 0 | 0.166043765 |
| Luthetium (Lu) | — | 0.034478063 | 17.29257381 | 2 | 34.58514762 | 4.35033E-05 | 4.35033E-05 | 0.034962282 | 15.20234915 | 12 | 182.4281898 | 0.000229469 | 0.000272973 | 0.034441922 | 16.89574548 | 2 | 33.79149096 | 4.2505E-05 | 0.000315478 | 0.034441922 | 0 | 17 | 0 | 0 | 0.000315478 |
| Magnesium (Mg) | — | 7845.417352 | 3934892.091 | 2 | 7869784.181 | 9.899099599 | 9.899099599 | 7955.600333 | 3459265.468 | 12 | 41511185.61 | 52.21532781 | 62.11442741 | 7837.193547 | 3844594.563 | 2 | 7689189.126 | 9.671936008 | 71.78636342 | 7837.193547 | 0 | 17 | 0 | 0 | 71.78636342 |
| Niobium (Nb) | — | 0.185380135 | 92.97795036 | 2 | 185.9559007 | 0.000233907 | 0.000233907 | 0.187983659 | 81.73932233 | 12 | 980.871868 | 0.001233801 | 0.001467708 | 0.185185813 | 90.84430124 | 2 | 181.6886025 | 0.000228539 | 0.001696247 | 0.185185813 | 0 | 17 | 0 | 0 | 0.001696247 |
| Potassium (K) | — | 7072.486505 | 3547226.357 | 2 | 7094452.714 | 8.923839891 | 8.923839891 | 7171.814255 | 3118458.489 | 12 | 37421501.86 | 47.07107153 | 55.99491142 | 7065.07291 | 3465824.945 | 2 | 6931649.691 | 8.719056466 | 64.71396789 | 7065.07291 | 0 | 17 | 0 | 0 | 64.71396789 |
| Rubidium (Rb) | — | 33.08146907 | 16592.10787 | 2 | 33184.21574 | 0.041741152 | 0.041741152 | 33.5460734 | 14586.55141 | 12 | 175038.617 | 0.220174361 | 0.261915513 | 33.04679206 | 16211.35376 | 2 | 32422.70753 | 0.04078328 | 0.302698793 | 33.04679206 | 0 | 17 | 0 | 0 | 0.302698793 |
| Scandium (Sc) | — | 2.141577523 | 1074.11449 | 2 | 2148.22898 | 0.002702175 | 0.002702175 | 2.921711387 | 1270.422707 | 12 | 15245.07248 | 0.019176192 | 0.021878367 | 2.139332657 | 1049.465813 | 2 | 2098.931627 | 0.002640166 | 0.024518532 | 2.139332657 | 0 | 17 | 0 | 0 | 0.024518532 |
| Sodium (Na) | — | 1469.021918 | 736792.2527 | 2 | 1473584.505 | 1.853565416 | 1.853565416 | 1489.653225 | 647733.1368 | 12 | 7772797.641 | 9.777103951 | 11.63066937 | 1467.482044 | 719884.4145 | 2 | 1439768.829 | 1.811029974 | 13.44169934 | 1467.482044 | 0 | 17 | 0 | 0 | 13.44169934 |
| Sulphur (S) | — | 8439.463839 | 4232837.849 | 2 | 8465675.698 | 10.64864868 | 10.64864868 | 8557.989755 | 3721197.294 | 12 | 44654367.53 | 56.16901576 | 66.81766444 | 8430.617335 | 4135703.09 | 2 | 8271406.181 | 10.4042845 | 77.22194894 | 8430.617335 | 0 | 17 | 0 | 0 | 77.22194894 |
| Tantalum (Ta) | — | 0.044173442 | 22.1553193 | 2 | 44.31063861 | 5.57367E-05 | 5.57367E-05 | 0.044793824 | 19.47731455 | 12 | 233.7277747 | 0.000293997 | 0.000349734 | 0.044127138 | 21.64690115 | 2 | 43.29380231 | 5.44576E-05 | 0.000404191 | 0.044127138 | 0 | 17 | 0 | 0 | 0.000404191 |
| Technetium (Te) | — | 0.071563273 | 35.89276936 | 2 | 71.78553872 | 9.02963E-05 | 9.02963E-05 | 0.072568325 | 31.55426241 | 12 | 378.651149 | 0.000476291 | 0.000566587 | 0.071488258 | 35.06910552 | 2 | 70.13821104 | 8.82242E-05 | 0.000654811 | 0.071488258 | 0 | 17 | 0 | 0 | 0.000654811 |
| Terbium (Tb) | — | 0.203980498 | 102.3070172 | 2 | 204.6140344 | 0.000257376 | 0.000257376 | 0.20684525 | 89.9407464 | 12 | 1079.288957 | 0.001357596 | 0.001614972 | 0.203766679 | 99.95928553 | 2 | 199.9185711 | 0.00025147 | 0.001866442 | 0.203766679 | 0 | 17 | 0 | 0 | 0.001866442 |
| Thorium (Th) | — | 3.759488301 | 1885.582387 | 2 | 3771.164775 | 0.004743603 | 0.004743603 | 5.894757696 | 2563.166937 | 12 | 30758.00324 | 0.038689312 | 0.043432916 | 3.755547491 | 1842.312223 | 2 | 3684.624446 | 0.004634748 | 0.048067663 | 3.755547491 | 0 | 17 | 0 | 0 | 0.048067663 |
| Tungsten (W) | — | 0.491537477 | 246.5320636 | 2 | 493.0641271 | 0.000620206 | 0.000620206 | 4.222143723 | 1835.878547 | 12 | 22030.54256 | 0.027711374 | 0.028331581 | 0.491022232 | 240.8746693 | 2 | 481.7493387 | 0.000605974 | 0.028937555 | 0.491022232 | 0 | 17 | 0 | 0 | 0.028937555 |
| Ytterbium (Yb) | — | 0.251622619 | 126.2020629 | 2 | 252.4041258 | 0.000317489 | 0.000317489 | 0.255156469 | 110.9474995 | 12 | 1331.369993 | 0.001674679 | 0.001992169 | 0.251358861 | 123.30599 | 2 | 246.61198 | 0.000310204 | 0.002302372 | 0.251358861 | 0 | 17 | 0 | 0 | 0.002302372 |
| Yttrium (Y) | — | 2.965855347 | 1487.533451 | 2 | 2975.066901 | 0.003742223 | 0.003742223 | 3.622320095 | 1575.062383 | 12 | 18900.74859 | 0.023774527 | 0.027516749 | 2.962746447 | 1453.397675 | 2 | 2906.795351 | 0.003656346 | 0.031173095 | 2.962746447 | 0 | 17 | 0 | 0 | 0.031173095 |
| Zirconium (Zr) | — | 14.18644437 | 7115.252794 | 2 | 14230.50559 | 0.017900007 | 0.017900007 | 14.3856823 | 6255.202866 | 12 | 75062.4344 | 0.094418156 | 0.112318164 | 14.1715737 | 6951.972653 | 2 | 13903.94531 | 0.017489239 | 0.129807403 | 14.1715737 | 0 | 17 | 0 | 0 | 0.129807403 |

# Table I-12: Metal Concentrations (µg/g) in Soils- Study Area No. 2 (Project Alone Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

Location 2 (Local Study Area)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 0.646496502 | Dustfall (µg/m²/yr) | 20387913.68 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.748488946 | Dustfall (µg/m²/yr) | 23604347.41 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.648593495 | Dustfall (µg/m²/yr) | 20454044.46 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | — | 4.205961875 | 85.75078764 | 2 | 171.5015753 | 0.000215725 | 0.000215725 | 7.798625391 | 184.081463 | 12 | 2208.977556 | 0.002778588 | 0.002994313 | 4.202077173 | 85.94947331 | 2 | 171.8989466 | 0.000216225 | 0.003210538 | 4.202077173 | 0 | 17 | 0 | 0 | 0.003210538 |
| Arsenic (As) | — | 17.58984634 | 358.6202687 | 2 | 717.2405374 | 0.000902189 | 0.000902189 | 26.0432211 | 614.7332384 | 12 | 7376.798861 | 0.009278992 | 0.010181182 | 17.5749339 | 359.4784793 | 2 | 718.9569587 | 0.000904348 | 0.01108553 | 17.5749339 | 0 | 17 | 0 | 0 | 0.01108553 |
| Barium (Ba) | — | 84.08892108 | 1714.397664 | 2 | 3428.795329 | 0.00431295 | 0.00431295 | 119.6985819 | 2825.406911 | 12 | 33904.88294 | 0.042647651 | 0.046960602 | 84.11732519 | 1720.539509 | 2 | 3441.079018 | 0.004328401 | 0.051289003 | 84.11732519 | 0 | 17 | 0 | 0 | 0.051289003 |
| Beryllium (Be) | — | 0.29068946 | 5.926551608 | 2 | 11.85310322 | 1.49096E-05 | 1.49096E-05 | 0.38583977 | 9.10749598 | 12 | 109.2899518 | 0.000137472 | 0.000152381 | 0.290936083 | 5.950819567 | 2 | 11.90163913 | 1.49706E-05 | 0.000167352 | 0.290936083 | 0 | 17 | 0 | 0 | 0.000167352 |
| Bismuth (Bi) | — | 0.193628618 | 3.947683551 | 2 | 7.895367102 | 9.93128E-06 | 9.93128E-06 | 1.256815761 | 29.66631584 | 12 | 355.9957901 | 0.000447793 | 0.000457725 | 0.193949766 | 3.967057134 | 2 | 7.934114268 | 9.98002E-06 | 0.000467705 | 0.193949766 | 0 | 17 | 0 | 0 | 0.000467705 |
| Boron (B) | — | 31.63720439 | 645.0165922 | 2 | 1290.033184 | 0.001622683 | 0.001622683 | 31.59787597 | 745.8472418 | 12 | 8950.166901 | 0.011258072 | 0.012880755 | 31.60833162 | 646.5182201 | 2 | 1293.03644 | 0.001626461 | 0.014507216 | 31.60833162 | 0 | 17 | 0 | 0 | 0.014507216 |
| Cadmium (Cd) | — | 1.020933681 | 20.81470776 | 2 | 41.62941552 | 5.2364E-05 | 5.2364E-05 | 1.982668966 | 46.79960706 | 12 | 561.5952847 | 0.000706409 | 0.000758773 | 1.020255143 | 20.86834406 | 2 | 41.73668811 | 5.2499E-05 | 0.000811272 | 1.020255143 | 0 | 17 | 0 | 0 | 0.000811272 |
| Chromium (Cr) | — | 45.0687609 | 918.8580068 | 2 | 1837.716014 | 0.002311592 | 0.002311592 | 55.25757562 | 1304.319012 | 12 | 15651.82814 | 0.019687834 | 0.021999427 | 45.07864895 | 922.0406898 | 2 | 1844.08138 | 0.002319599 | 0.024319026 | 45.07864895 | 0 | 17 | 0 | 0 | 0.024319026 |
| Cobalt (Co) | — | 107.1685093 | 2184.942317 | 2 | 4369.884635 | 0.00549671 | 0.00549671 | 108.3562008 | 2557.677406 | 12 | 30692.12887 | 0.038606451 | 0.044103162 | 107.0680731 | 2189.975127 | 2 | 4379.950254 | 0.005509371 | 0.049612533 | 107.0680731 | 0 | 17 | 0 | 0 | 0.049612533 |
| Copper (Cu) | — | 37.60491899 | 766.6858423 | 2 | 1533.371685 | 0.001928769 | 0.001928769 | 55.39970721 | 1307.673935 | 12 | 15692.08722 | 0.019738474 | 0.021667244 | 37.59131793 | 768.8944883 | 2 | 1537.788977 | 0.001934326 | 0.02360157 | 37.59131793 | 0 | 17 | 0 | 0 | 0.02360157 |
| Iron (Fe) | — | 20773.87634 | 423535.9976 | 2 | 847071.9952 | 1.065499365 | 1.065499365 | 17892.58756 | 422342.8528 | 12 | 5068114.234 | 6.374986458 | 7.440485823 | 20780.24763 | 425040.1089 | 2 | 850080.2178 | 1.069283293 | 8.509769116 | 20780.24763 | 0 | 17 | 0 | 0 | 8.509769116 |
| Lead (Pb) | — | 128.9552105 | 2629.127699 | 2 | 5258.255399 | 0.006614158 | 0.006614158 | 267.3260135 | 6310.056092 | 12 | 75720.67311 | 0.09524613 | 0.101860287 | 128.8298109 | 2635.09068 | 2 | 5270.181361 | 0.006629159 | 0.108489446 | 128.8298109 | 0 | 17 | 0 | 0 | 0.108489446 |
| Lithium (Li) | — | 12.90743827 | 263.1557372 | 2 | 526.3114744 | 0.000662027 | 0.000662027 | 12.25816134 | 289.3458989 | 12 | 3472.150787 | 0.004367485 | 0.005029512 | 12.91774151 | 264.2200592 | 2 | 528.4401185 | 0.000664705 | 0.005694217 | 12.91774151 | 0 | 17 | 0 | 0 | 0.005694217 |
| Manganese (Mn) | — | 425.8574877 | 8682.345699 | 2 | 17364.6914 | 0.021842379 | 0.021842379 | 414.9319183 | 9794.19715 | 12 | 117530.3658 | 0.147836938 | 0.169679317 | 425.9869891 | 8713.156813 | 2 | 17426.31363 | 0.021919891 | 0.191599209 | 425.9869891 | 0 | 17 | 0 | 0 | 0.191599209 |
| Mercury (Hg) | — | 0.247303416 | 5.042000703 | 2 | 10.08400141 | 1.26843E-05 | 1.26843E-05 | 0.246140787 | 5.809992653 | 12 | 69.71991183 | 8.7698E-05 | 0.000100382 | 0.247085308 | 5.053893879 | 2 | 10.10778776 | 1.27142E-05 | 0.000113096 | 0.247085308 | 0 | 17 | 0 | 0 | 0.000113096 |
| Molybdenum (Mo) | — | 0.897938167 | 18.30708584 | 2 | 36.61417169 | 4.60556E-05 | 4.60556E-05 | 1.800263876 | 42.49405395 | 12 | 509.9286474 | 0.00064142 | 0.000687475 | 0.897600602 | 18.35956262 | 2 | 36.71912524 | 4.61876E-05 | 0.000733663 | 0.897600602 | 0 | 17 | 0 | 0 | 0.000733663 |
| Nickel (Ni) | — | 22.16294633 | 451.8562366 | 2 | 903.7124733 | 0.001136745 | 0.001136745 | 22.72477316 | 536.4034403 | 12 | 6436.841284 | 0.008096656 | 0.009233401 | 22.1721202 | 453.5095323 | 2 | 907.0190647 | 0.001140904 | 0.010374305 | 22.1721202 | 0 | 17 | 0 | 0 | 0.010374305 |
| Phosphorus (P) | — | 517.8301236 | 10557.47586 | 2 | 21114.95172 | 0.026559688 | 0.026559688 | 507.8330691 | 11987.06819 | 12 | 143844.8183 | 0.180936878 | 0.207496566 | 517.8662983 | 10592.46029 | 2 | 21184.92058 | 0.026647699 | 0.234144265 | 517.8662983 | 0 | 17 | 0 | 0 | 0.234144265 |
| Selenium (Se) | — | 0.058265583 | 1.18791367 | 2 | 2.375827339 | 2.98846E-06 | 2.98846E-06 | 1.207055384 | 28.49175462 | 12 | 341.9010555 | 0.000430064 | 0.000433053 | 0.058728622 | 1.201237848 | 2 | 2.402475696 | 3.02198E-06 | 0.000436075 | 0.058728622 | 0 | 17 | 0 | 0 | 0.000436075 |
| Silver (Ag) | — | 1.139846415 | 23.23909031 | 2 | 46.47818062 | 5.84631E-05 | 5.84631E-05 | 3.437039883 | 81.12908344 | 12 | 973.5490013 | 0.00122459 | 0.001283053 | 1.138774602 | 23.29254635 | 2 | 46.58509269 | 5.85976E-05 | 0.001341651 | 1.138774602 | 0 | 17 | 0 | 0 | 0.001341651 |
| Strontium (Sr) | — | 20.81624026 | 424.3997094 | 2 | 848.7994189 | 0.001067672 | 0.001067672 | 26.8088704 | 632.8058905 | 12 | 7593.670686 | 0.009551787 | 0.010619459 | 20.83774548 | 426.2161724 | 2 | 852.4323448 | 0.001072242 | 0.011691701 | 20.83774548 | 0 | 17 | 0 | 0 | 0.011691701 |
| Thallium (Tl) | — | 0.292853866 | 5.970679332 | 2 | 11.94135866 | 1.50206E-05 | 1.50206E-05 | 1.559570851 | 36.81265217 | 12 | 441.7518261 | 0.000555663 | 0.000570683 | 0.292808945 | 5.989127176 | 2 | 11.97825435 | 1.5067E-05 | 0.00058575 | 0.292808945 | 0 | 17 | 0 | 0 | 0.00058575 |
| Tin (Sn) | — | 1.055959902 | 21.52881934 | 2 | 43.05763868 | 5.41606E-05 | 5.41606E-05 | 10.82682598 | 255.5601617 | 12 | 3066.72194 | 0.003857512 | 0.003911672 | 1.057473589 | 21.62961181 | 2 | 43.25922362 | 5.44141E-05 | 0.003966087 | 1.057473589 | 0 | 17 | 0 | 0 | 0.003966087 |
| Titanium (Ti) | — | 845.1292387 | 17230.42197 | 2 | 34460.84393 | 0.043346974 | 0.043346974 | 824.4525443 | 19460.66428 | 12 | 233527.9713 | 0.293745876 | 0.337092849 | 845.8795361 | 17301.65764 | 2 | 34603.31527 | 0.043526183 | 0.380619032 | 845.8795361 | 0 | 17 | 0 | 0 | 0.380619032 |
| Uranium (U) | — | 0.886324697 | 18.07031141 | 2 | 36.14062282 | 4.54599E-05 | 4.54599E-05 | 1.880923687 | 44.39797614 | 12 | 532.7757137 | 0.000670158 | 0.000715618 | 0.885919739 | 18.12064174 | 2 | 36.24128347 | 4.55865E-05 | 0.000761205 | 0.885919739 | 0 | 17 | 0 | 0 | 0.000761205 |
| Vanadium (V) | — | 24.68669143 | 503.1031339 | 2 | 1006.620268 | 0.001266189 | 0.001266189 | 22.34313435 | 527.3951054 | 12 | 6328.741265 | 0.007960681 | 0.00922687 | 24.71913205 | 505.6062258 | 2 | 1011.212452 | 0.001271965 | 0.010498835 | 24.71913205 | 0 | 17 | 0 | 0 | 0.010498835 |
| Zinc (Zn) | — | 400.0174966 | 8155.52219 | 2 | 16311.04438 | 0.020517037 | 0.020517037 | 684.2124522 | 16150.38842 | 12 | 193804.661 | 0.243779448 | 0.264296485 | 399.6687376 | 8174.842127 | 2 | 16349.68425 | 0.020565641 | 0.284862125 | 399.6687376 | 0 | 17 | 0 | 0 | 0.284862125 |
| Aluminum (Al) | — | 14537.60434 | 296391.4224 | 2 | 592782.8448 | 0.745638798 | 0.745638798 | 14741.77405 | 347969.9561 | 12 | 4175639.473 | 5.252376695 | 5.998015494 | 14522.36558 | 297041.1112 | 2 | 594082.2224 | 0.747273236 | 6.745288729 | 14522.36558 | 0 | 17 | 0 | 0 | 6.745288729 |
| Calcium (Ca) | — | 5288.588118 | 107823.278 | 2 | 215646.5561 | 0.27125353 | 0.27125353 | 5362.862357 | 126586.8662 | 12 | 1519042.394 | 1.91074515 | 2.181998679 | 5283.044459 | 108059.6262 | 2 | 216119.2525 | 0.271848116 | 2.453846796 | 5283.044459 | 0 | 17 | 0 | 0 | 2.453846796 |
| Cerium (Ce) | — | 32.67889168 | 666.2544226 | 2 | 1332.508845 | 0.001676112 | 0.001676112 | 33.13784211 | 782.1971375 | 12 | 9386.36565 | 0.011806749 | 0.013482861 | 32.64463667 | 667.7148497 | 2 | 1335.429699 | 0.001679786 | 0.015162647 | 32.64463667 | 0 | 17 | 0 | 0 | 0.015162647 |
| Cesium (Cs) | — | 5.104702094 | 104.0742256 | 2 | 208.1484513 | 0.000261822 | 0.000261822 | 5.176393792 | 122.1853974 | 12 | 1466.224769 | 0.001844308 | 0.00210613 | 5.099351189 | 104.3023559 | 2 | 208.6047119 | 0.000262396 | 0.002368526 | 5.099351189 | 0 | 17 | 0 | 0 | 0.002368526 |
| Gallium (Ga) | — | 6.200931756 | 126.4240614 | 2 | 252.8481227 | 0.000318048 | 0.000318048 | 8.390280227 | 198.0470893 | 12 | 2376.565072 | 0.00298939 | 0.003307438 | 6.19443175 | 126.7011824 | 2 | 253.4023648 | 0.000318745 | 0.003626183 | 6.19443175 | 0 | 17 | 0 | 0 | 0.003626183 |
| Germanium (Ge) | — | 0.096184722 | 1.96100581 | 2 | 3.92201162 | 4.93335E-06 | 4.93335E-06 | 0.097535564 | 2.302263339 | 12 | 27.62716006 | 3.47511E-05 | 3.96845E-05 | 0.096083898 | 1.965304327 | 2 | 3.930608655 | 4.94416E-06 | 4.46287E-05 | 0.096083898 | 0 | 17 | 0 | 0 | 4.46287E-05 |
| Hafnium (Hf) | — | 0.364128902 | 7.423828631 | 2 | 14.84765726 | 1.86763E-05 | 1.86763E-05 | 0.369242819 | 8.715735771 | 12 | 104.5888293 | 0.000131558 | 0.000150235 | 0.363747211 | 7.440101634 | 2 | 14.88020327 | 1.87172E-05 | 0.000168952 | 0.363747211 | 0 | 17 | 0 | 0 | 0.000168952 |
| Indium (In) | — | 0.01815208 | 0.370083032 | 2 | 0.740166063 | 9.31026E-07 | 9.31026E-07 | 0.018407012 | 0.434485503 | 12 | 5.213826036 | 6.55827E-06 | 7.4893E-06 | 0.018133052 | 0.370894252 | 2 | 0.741788504 | 9.33067E-07 | 8.42237E-06 | 0.018133052 | 0 | 17 | 0 | 0 | 8.42237E-06 |
| Lanthanum (La) | — | 16.71463616 | 340.7765593 | 2 | 681.5531186 | 0.0008573 | 0.0008573 | 18.94579509 | 447.2031291 | 12 | 5366.437549 | 0.006750236 | 0.007607535 | 16.69711537 | 341.5235402 | 2 | 683.0470804 | 0.000859179 | 0.008466714 | 16.69711537 | 0 | 17 | 0 | 0 | 0.008466714 |
| Luthetium (Lu) | — | 0.034478063 | 0.702935779 | 2 | 1.405871557 | 1.76839E-06 | 1.76839E-06 | 0.034962282 | 0.825261845 | 12 | 9.903142138 | 1.24568E-05 | 1.42252E-05 | 0.034441922 | 0.704476611 | 2 | 1.408953222 | 1.77227E-06 | 1.59974E-05 | 0.034441922 | 0 | 17 | 0 | 0 | 1.59974E-05 |
| Magnesium (Mg) | — | 7845.417352 | 159951.6917 | 2 | 319903.3835 | 0.402394193 | 0.402394193 | 7955.600333 | 187786.7541 | 12 | 2253441.049 | 2.834517043 | 3.236911236 | 7837.193547 | 160302.3052 | 2 | 320604.6105 | 0.40327624 | 3.640187475 | 7837.193547 | 0 | 17 | 0 | 0 | 3.640187475 |
| Niobium (Nb) | — | 0.185380135 | 3.779514181 | 2 | 7.559028361 | 9.50821E-06 | 9.50821E-06 | 0.187983659 | 4.437231593 | 12 | 53.24677912 | 6.69771E-05 | 7.64853E-05 | 0.185185813 | 3.787798861 | 2 | 7.575597722 | 9.52905E-06 | 8.60143E-05 | 0.185185813 | 0 | 17 | 0 | 0 | 8.60143E-05 |
| Potassium (K) | — | 7072.486505 | 144193.2444 | 2 | 288386.4887 | 0.3627503 | 0.3627503 | 7171.814255 | 169285.9952 | 12 | 2031431.942 | 2.555260305 | 2.918010605 | 7065.07291 | 144509.3154 | 2 | 289018.6308 | 0.363545448 | 3.281556053 | 7065.07291 | 0 | 17 | 0 | 0 | 3.281556053 |
| Rubidium (Rb) | — | 33.08146907 | 674.4621357 | 2 | 1348.924271 | 0.00169676 | 0.00169676 | 33.5460734 | 791.8331706 | 12 | 9501.998047 | 0.011952199 | 0.013648959 | 33.04679206 | 675.9405541 | 2 | 1351.881108 | 0.001700479 | 0.015349438 | 33.04679206 | 0 | 17 | 0 | 0 | 0.015349438 |
| Scandium (Sc) | — | 2.141577523 | 43.66229768 | 2 | 87.32459536 | 0.000109842 | 0.000109842 | 2.921711387 | 68.9650906 | 12 | 827.5810873 | 0.001040982 | 0.001150825 | 2.139332657 | 43.75800527 | 2 | 87.51601054 | 0.000110083 | 0.001260908 | 2.139332657 | 0 | 17 | 0 | 0 | 0.001260908 |
| Sodium (Na) | — | 1469.021918 | 29950.29205 | 2 | 59900.58409 | 0.075346647 | 0.075346647 | 1489.653225 | 35162.29223 | 12 | 421947.5067 | 0.530751581 | 0.606098227 | 1467.482044 | 30015.94297 | 2 | 60031.88594 | 0.075511806 | 0.681610034 | 1467.482044 | 0 | 17 | 0 | 0 | 0.681610034 |
| Sulphur (S) | — | 8439.463839 | 172063.0602 | 2 | 344126.1205 | 0.432863045 | 0.432863045 | 8557.989755 | 202005.7633 | 12 | 2424069.159 | 3.049143597 | 3.482006641 | 8430.617335 | 172440.2218 | 2 | 344880.4436 | 0.433811879 | 3.91581852 | 8430.617335 | 0 | 17 | 0 | 0 | 3.91581852 |
| Tantalum (Ta) | — | 0.044173442 | 0.900604317 | 2 | 1.801208634 | 2.26567E-06 | 2.26567E-06 | 0.044793824 | 1.057328994 | 12 | 12.68794793 | 1.59597E-05 | 1.82254E-05 | 0.044127138 | 0.902578438 | 2 | 1.805156876 | 2.27064E-06 | 2.0496E-05 | 0.044127138 | 0 | 17 | 0 | 0 | 2.0496E-05 |
| Technetium (Te) | — | 0.071563273 | 1.459025826 | 2 | 2.918051651 | 3.67051E-06 | 3.67051E-06 | 0.072568325 | 1.712927953 | 12 | 20.55513543 | 2.58555E-05 | 2.9526E-05 | 0.071488258 | 1.462224004 | 2 | 2.924448009 | 3.67855E-06 | 3.32046E-05 | 0.071488258 | 0 | 17 | 0 | 0 | 3.32046E-05 |
| Terbium (Tb) | — | 0.203980498 | 4.158736783 | 2 | 8.317473567 | 1.04622E-05 | 1.04622E-05 | 0.20684525 | 4.882447151 | 12 | 58.58936581 | 7.36973E-05 | 8.41595E-05 | 0.203766679 | 4.167852718 | 2 | 8.335705436 | 1.04852E-05 | 9.46447E-05 | 0.203766679 | 0 | 17 | 0 | 0 | 9.46447E-05 |
| Thorium (Th) | — | 3.759488301 | 76.64812296 | 2 | 153.2962459 | 0.000192825 | 0.000192825 | 5.894757696 | 139.1419085 | 12 | 1669.702902 | 0.002100255 | 0.002293081 | 3.755547491 | 76.81613535 | 2 | 153.6322707 | 0.000193248 | 0.002486329 | 3.755547491 | 0 | 17 | 0 | 0 | 0.002486329 |
| Tungsten (W) | — | 0.491537477 | 10.02142365 | 2 | 20.04284729 | 2.52111E-05 | 2.52111E-05 | 4.222143723 | 99.66094723 | 12 | 1195.931367 | 0.001504316 | 0.001529527 | 0.491022232 | 10.04339057 | 2 | 20.08678113 | 2.52664E-05 | 0.001554794 | 0.491022232 | 0 | 17 | 0 | 0 | 0.001554794 |
| Ytterbium (Yb) | — | 0.251622619 | 5.130060239 | 2 | 10.26012048 | 1.29058E-05 | 1.29058E-05 | 0.255156469 | 6.022801948 | 12 | 72.27362337 | 9.09102E-05 | 0.000103816 | 0.251358861 | 5.141305311 | 2 | 10.28261062 | 1.29341E-05 | 0.00011675 | 0.251358861 | 0 | 17 | 0 | 0 | 0.00011675 |
| Yttrium (Y) | — | 2.965855347 | 60.46760279 | 2 | 120.9352056 | 0.00015212 | 0.00015212 | 3.622320095 | 85.50250194 | 12 | 1026.030023 | 0.001290604 | 0.001442724 | 2.962746447 | 60.60014754 | 2 | 121.2002951 | 0.000152453 | 0.001595177 | 2.962746447 | 0 | 17 | 0 | 0 | 0.001595177 |
| Zirconium (Zr) | — | 14.18644437 | 289.2320032 | 2 | 578.4640063 | 0.000727628 | 0.000727628 | 14.3856823 | 339.5646427 | 12 | 4074.775712 | 0.005125504 | 0.005853132 | 14.1715737 | 289.8659986 | 2 | 579.7319972 | 0.000729223 | 0.006582354 | 14.1715737 | 0 | 17 | 0 | 0 | 0.006582354 |

# Table I-13: Metal Concentrations (µg/g) in Soils- Study Area No. 2 (Project Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

Location 2 (Local Study Area)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 0.646496502 | Dustfall (µg/m²/yr) | 20387913.68 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.748488946 | Dustfall (µg/m²/yr) | 23604347.41 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.648593495 | Dustfall (µg/m²/yr) | 20454044.46 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | 0.5 | 4.205961875 | 85.75078764 | 2 | 171.5015753 | 0.000215725 | 0.500215725 | 7.798625391 | 184.081463 | 12 | 2208.977556 | 0.002778588 | 0.502994313 | 4.202077173 | 85.94947331 | 2 | 171.8989466 | 0.000216225 | 0.503210538 | 4.202077173 | 0 | 17 | 0 | 0 | 0.503210538 |
| Arsenic (As) | 3.363552072 | 17.58984634 | 358.6202687 | 2 | 717.2405374 | 0.000902189 | 3.364454261 | 26.0432211 | 614.7332384 | 12 | 7376.798861 | 0.009278992 | 3.373733253 | 17.5749339 | 359.4784793 | 2 | 718.9569587 | 0.000904348 | 3.374637602 | 17.5749339 | 0 | 17 | 0 | 0 | 3.374637602 |
| Barium (Ba) | 111.1861178 | 84.08892108 | 1714.397664 | 2 | 3428.795329 | 0.00431295 | 111.1904307 | 119.6985819 | 2825.406911 | 12 | 33904.88294 | 0.042647651 | 111.2330784 | 84.11732519 | 1720.539509 | 2 | 3441.079018 | 0.004328401 | 111.2374068 | 84.11732519 | 0 | 17 | 0 | 0 | 111.2374068 |
| Beryllium (Be) | 0.525965023 | 0.29068946 | 5.926551608 | 2 | 11.85310322 | 1.49096E-05 | 0.525979932 | 0.38583977 | 9.10749598 | 12 | 109.2899518 | 0.000137472 | 0.526117404 | 0.290936083 | 5.950819567 | 2 | 11.90163913 | 1.49706E-05 | 0.526132375 | 0.290936083 | 0 | 17 | 0 | 0 | 0.526132375 |
| Bismuth (Bi) | 0.5 | 0.193628618 | 3.947683551 | 2 | 7.895367102 | 9.93128E-06 | 0.500009931 | 1.256815761 | 29.66631584 | 12 | 355.9957901 | 0.000447793 | 0.500457725 | 0.193949766 | 3.967057134 | 2 | 7.934114268 | 9.98002E-06 | 0.500467705 | 0.193949766 | 0 | 17 | 0 | 0 | 0.500467705 |
| Boron (B) | 4.092902737 | 31.63720439 | 645.0165922 | 2 | 1290.033184 | 0.001622683 | 4.09452542 | 31.59787597 | 745.8472418 | 12 | 8950.166901 | 0.011258072 | 4.105783492 | 31.60833162 | 646.5182201 | 2 | 1293.03644 | 0.001626461 | 4.107409953 | 31.60833162 | 0 | 17 | 0 | 0 | 4.107409953 |
| Cadmium (Cd) | 0.373616223 | 1.020933681 | 20.81470776 | 2 | 41.62941552 | 5.2364E-05 | 0.373668587 | 1.982668966 | 46.79960706 | 12 | 561.5952847 | 0.000706409 | 0.374374996 | 1.020255143 | 20.86834406 | 2 | 41.73668811 | 5.2499E-05 | 0.374427495 | 1.020255143 | 0 | 17 | 0 | 0 | 0.374427495 |
| Chromium (Cr) | 54.50185026 | 45.0687609 | 918.8580068 | 2 | 1837.716014 | 0.002311592 | 54.50416186 | 55.25757562 | 1304.319012 | 12 | 15651.82814 | 0.019687834 | 54.52384969 | 45.07864895 | 922.0406898 | 2 | 1844.08138 | 0.002319599 | 54.52616929 | 45.07864895 | 0 | 17 | 0 | 0 | 54.52616929 |
| Cobalt (Co) | 11.35346769 | 107.1685093 | 2184.942317 | 2 | 4369.884635 | 0.00549671 | 11.3589644 | 108.3562008 | 2557.677406 | 12 | 30692.12887 | 0.038606451 | 11.39757085 | 107.0680731 | 2189.975127 | 2 | 4379.950254 | 0.005509371 | 11.40308022 | 107.0680731 | 0 | 17 | 0 | 0 | 11.40308022 |
| Copper (Cu) | 24.62966637 | 37.60491899 | 766.6858423 | 2 | 1533.371685 | 0.001928769 | 24.63159514 | 55.39970721 | 1307.673935 | 12 | 15692.08722 | 0.019738474 | 24.65133362 | 37.59131793 | 768.8944883 | 2 | 1537.788977 | 0.001934326 | 24.65326794 | 37.59131793 | 0 | 17 | 0 | 0 | 24.65326794 |
| Iron (Fe) | 26852.01355 | 20773.87634 | 423535.9976 | 2 | 847071.9952 | 1.065499365 | 26853.07905 | 17892.58756 | 422342.8528 | 12 | 5068114.234 | 6.374986458 | 26859.45403 | 20780.24763 | 425040.1089 | 2 | 850080.2178 | 1.069283293 | 26860.52332 | 20780.24763 | 0 | 17 | 0 | 0 | 26860.52332 |
| Lead (Pb) | 9.325484655 | 128.9552105 | 2629.127699 | 2 | 5258.255399 | 0.006614158 | 9.332098813 | 267.3260135 | 6310.056092 | 12 | 75720.67311 | 0.09524613 | 9.427344943 | 128.8298109 | 2635.09068 | 2 | 5270.181361 | 0.006629159 | 9.433974102 | 128.8298109 | 0 | 17 | 0 | 0 | 9.433974102 |
| Lithium (Li) | 22.73661853 | 12.90743827 | 263.1557372 | 2 | 526.3114744 | 0.000662027 | 22.73728055 | 12.25816134 | 289.3458989 | 12 | 3472.150787 | 0.004367485 | 22.74164804 | 12.91774151 | 264.2200592 | 2 | 528.4401185 | 0.000664705 | 22.74231274 | 12.91774151 | 0 | 17 | 0 | 0 | 22.74231274 |
| Manganese (Mn) | 549.4003304 | 425.8574877 | 8682.345699 | 2 | 17364.6914 | 0.021842379 | 549.4221728 | 414.9319183 | 9794.19715 | 12 | 117530.3658 | 0.147836938 | 549.5700097 | 425.9869891 | 8713.156813 | 2 | 17426.31363 | 0.021919891 | 549.5919296 | 425.9869891 | 0 | 17 | 0 | 0 | 549.5919296 |
| Mercury (Hg) | 0.039230831 | 0.247303416 | 5.042000703 | 2 | 10.08400141 | 1.26843E-05 | 0.039243515 | 0.246140787 | 5.809992653 | 12 | 69.71991183 | 8.7698E-05 | 0.039331213 | 0.247085308 | 5.053893879 | 2 | 10.10778776 | 1.27142E-05 | 0.039343927 | 0.247085308 | 0 | 17 | 0 | 0 | 0.039343927 |
| Molybdenum (Mo) | 0.575904698 | 0.897938167 | 18.30708584 | 2 | 36.61417169 | 4.60556E-05 | 0.575950754 | 1.800263876 | 42.49405395 | 12 | 509.9286474 | 0.00064142 | 0.576592173 | 0.897600602 | 18.35956262 | 2 | 36.71912524 | 4.61876E-05 | 0.576638361 | 0.897600602 | 0 | 17 | 0 | 0 | 0.576638361 |
| Nickel (Ni) | 30.91471598 | 22.16294633 | 451.8562366 | 2 | 903.7124733 | 0.001136745 | 30.91585272 | 22.72477316 | 536.4034403 | 12 | 6436.841284 | 0.008096656 | 30.92394938 | 22.1721202 | 453.5095323 | 2 | 907.0190647 | 0.001140904 | 30.92509028 | 22.1721202 | 0 | 17 | 0 | 0 | 30.92509028 |
| Phosphorus (P) | 552.3403097 | 517.8301236 | 10557.47586 | 2 | 21114.95172 | 0.026559688 | 552.3668694 | 507.8330691 | 11987.06819 | 12 | 143844.8183 | 0.180936878 | 552.5478063 | 517.8662983 | 10592.46029 | 2 | 21184.92058 | 0.026647699 | 552.574454 | 517.8662983 | 0 | 17 | 0 | 0 | 552.574454 |
| Selenium (Se) | 0.5 | 0.058265583 | 1.18791367 | 2 | 2.375827339 | 2.98846E-06 | 0.500002988 | 1.207055384 | 28.49175462 | 12 | 341.9010555 | 0.000430064 | 0.500433053 | 0.058728622 | 1.201237848 | 2 | 2.402475696 | 3.02198E-06 | 0.500436075 | 0.058728622 | 0 | 17 | 0 | 0 | 0.500436075 |
| Silver (Ag) | 0.117349645 | 1.139846415 | 23.23909031 | 2 | 46.47818062 | 5.84631E-05 | 0.117408108 | 3.437039883 | 81.12908344 | 12 | 973.5490013 | 0.00122459 | 0.118632698 | 1.138774602 | 23.29254635 | 2 | 46.58509269 | 5.85976E-05 | 0.118691296 | 1.138774602 | 0 | 17 | 0 | 0 | 0.118691296 |
| Strontium (Sr) | 41.33197775 | 20.81624026 | 424.3997094 | 2 | 848.7994189 | 0.001067672 | 41.33304543 | 26.8088704 | 632.8058905 | 12 | 7593.670686 | 0.009551787 | 41.34259721 | 20.83774548 | 426.2161724 | 2 | 852.4323448 | 0.001072242 | 41.34366946 | 20.83774548 | 0 | 17 | 0 | 0 | 41.34366946 |
| Thallium (Tl) | 0.25 | 0.292853866 | 5.970679332 | 2 | 11.94135866 | 1.50206E-05 | 0.250015021 | 1.559570851 | 36.81265217 | 12 | 441.7518261 | 0.000555663 | 0.250570683 | 0.292808945 | 5.989127176 | 2 | 11.97825435 | 1.5067E-05 | 0.25058575 | 0.292808945 | 0 | 17 | 0 | 0 | 0.25058575 |
| Tin (Sn) | 2.5 | 1.055959902 | 21.52881934 | 2 | 43.05763868 | 5.41606E-05 | 2.500054161 | 10.82682598 | 255.5601617 | 12 | 3066.72194 | 0.003857512 | 2.503911672 | 1.057473589 | 21.62961181 | 2 | 43.25922362 | 5.44141E-05 | 2.503966087 | 1.057473589 | 0 | 17 | 0 | 0 | 2.503966087 |
| Titanium (Ti) | 1560.904401 | 845.1292387 | 17230.42197 | 2 | 34460.84393 | 0.043346974 | 1560.947748 | 824.4525443 | 19460.66428 | 12 | 233527.9713 | 0.293745876 | 1561.241494 | 845.8795361 | 17301.65764 | 2 | 34603.31527 | 0.043526183 | 1561.28502 | 845.8795361 | 0 | 17 | 0 | 0 | 1561.28502 |
| Uranium (U) | 0.5 | 0.886324697 | 18.07031141 | 2 | 36.14062282 | 4.54599E-05 | 0.50004546 | 1.880923687 | 44.39797614 | 12 | 532.7757137 | 0.000670158 | 0.500715618 | 0.885919739 | 18.12064174 | 2 | 36.2412847 | 4.55865E-05 | 0.500761205 | 0.885919739 | 0 | 17 | 0 | 0 | 0.500761205 |
| Vanadium (V) | 55.63466816 | 24.68669143 | 503.3101339 | 2 | 1006.620268 | 0.001266189 | 55.63593435 | 22.34313435 | 527.3951054 | 12 | 6328.741265 | 0.007960681 | 55.64389503 | 24.71913205 | 505.6062258 | 2 | 1011.212452 | 0.001271965 | 55.64516699 | 24.71913205 | 0 | 17 | 0 | 0 | 55.64516699 |
| Zinc (Zn) | 67.30535403 | 400.0174966 | 8155.52219 | 2 | 16311.04438 | 0.020517037 | 67.32587107 | 684.2124522 | 16150.38842 | 12 | 193804.661 | 0.243779448 | 67.56965052 | 399.6687376 | 8174.842127 | 2 | 16349.68425 | 0.020565641 | 67.59021616 | 399.6687376 | 0 | 17 | 0 | 0 | 67.59021616 |
| Aluminum (Al) | — | 14537.60434 | 296391.4224 | 2 | 592782.8448 | 0.745638798 | 0.745638798 | 14741.77405 | 347969.9561 | 12 | 4175639.473 | 5.252376695 | 5.998015494 | 14522.36558 | 297041.1112 | 2 | 594082.2224 | 0.747273236 | 6.745288729 | 14522.36558 | 0 | 17 | 0 | 0 | 6.745288729 |
| Calcium (Ca) | — | 5288.588118 | 107823.278 | 2 | 215646.5561 | 0.27125353 | 0.27125353 | 5362.862357 | 126586.8662 | 12 | 1519042.394 | 1.91074515 | 2.181998679 | 5283.044459 | 108059.6262 | 2 | 216119.2525 | 0.271848116 | 2.453846796 | 5283.044459 | 0 | 17 | 0 | 0 | 2.453846796 |
| Cerium (Ce) | — | 32.67889168 | 666.2544226 | 2 | 1332.508845 | 0.001676112 | 0.001676112 | 33.13784211 | 782.1971375 | 12 | 9386.36565 | 0.011806749 | 0.013482861 | 32.64463667 | 667.7148497 | 2 | 1335.429699 | 0.001679786 | 0.015162647 | 32.64463667 | 0 | 17 | 0 | 0 | 0.015162647 |
| Cesium (Cs) | — | 5.104702094 | 104.0742256 | 2 | 208.1484513 | 0.000261822 | 0.000261822 | 5.176393792 | 122.1853974 | 12 | 1466.224769 | 0.001844308 | 0.00210613 | 5.099351189 | 104.3023559 | 2 | 208.6047119 | 0.000262396 | 0.002368526 | 5.099351189 | 0 | 17 | 0 | 0 | 0.002368526 |
| Gallium (Ga) | — | 6.200931756 | 126.4240614 | 2 | 252.8481227 | 0.000318048 | 0.000318048 | 8.390280227 | 198.0470893 | 12 | 2376.565072 | 0.00298939 | 0.003307438 | 6.19443175 | 126.7011824 | 2 | 253.4023648 | 0.000318745 | 0.003626183 | 6.19443175 | 0 | 17 | 0 | 0 | 0.003626183 |
| Germanium (Ge) | — | 0.096184722 | 1.961005581 | 2 | 3.92201162 | 4.93335E-06 | 4.93335E-06 | 0.097535564 | 2.302263339 | 12 | 27.62716006 | 3.47511E-05 | 3.96845E-05 | 0.096083898 | 1.965304327 | 2 | 3.930608655 | 4.94416E-06 | 4.46287E-05 | 0.096083898 | 0 | 17 | 0 | 0 | 4.46287E-05 |
| Hafnium (Hf) | — | 0.364128902 | 7.423828631 | 2 | 14.84765726 | 1.86763E-05 | 1.86763E-05 | 0.369242819 | 8.715735771 | 12 | 104.5888293 | 0.000131558 | 0.000150235 | 0.363747211 | 7.440101634 | 2 | 14.88020327 | 1.87172E-05 | 0.000168952 | 0.363747211 | 0 | 17 | 0 | 0 | 0.000168952 |
| Indium (In) | — | 0.01815208 | 0.370083032 | 2 | 0.740166063 | 9.31026E-07 | 9.31026E-07 | 0.018407012 | 0.434485503 | 12 | 5.213826036 | 6.55827E-06 | 7.4893E-06 | 0.018133052 | 0.370894252 | 2 | 0.741788504 | 9.33067E-07 | 8.42237E-06 | 0.018133052 | 0 | 17 | 0 | 0 | 8.42237E-06 |
| Lanthanum (La) | — | 16.71463616 | 340.7765593 | 2 | 681.5531186 | 0.0008573 | 0.0008573 | 18.94579509 | 447.2031291 | 12 | 5366.437549 | 0.006750236 | 0.007607535 | 16.69711537 | 341.5235402 | 2 | 683.0470804 | 0.000859179 | 0.008466714 | 16.69711537 | 0 | 17 | 0 | 0 | 0.008466714 |
| Luthetium (Lu) | — | 0.034478063 | 0.702935779 | 2 | 1.405871557 | 1.76839E-06 | 1.76839E-06 | 0.034962282 | 0.825261845 | 12 | 9.903142138 | 1.24568E-05 | 1.42252E-05 | 0.034441922 | 0.704476611 | 2 | 1.408953222 | 1.77227E-06 | 1.59974E-05 | 0.034441922 | 0 | 17 | 0 | 0 | 1.59974E-05 |
| Magnesium (Mg) | — | 7845.417352 | 159951.6917 | 2 | 319903.3835 | 0.402394193 | 0.402394193 | 7955.600333 | 187786.7541 | 12 | 2253441.049 | 2.834517043 | 3.236911236 | 7837.193547 | 160302.3052 | 2 | 320604.6105 | 0.40327624 | 3.640187475 | 7837.193547 | 0 | 17 | 0 | 0 | 3.640187475 |
| Niobium (Nb) | — | 0.185380135 | 3.779514181 | 2 | 7.559028361 | 9.50821E-06 | 9.50821E-06 | 0.187983659 | 4.437231593 | 12 | 53.24677912 | 6.69771E-05 | 7.64853E-05 | 0.185185813 | 3.787798861 | 2 | 7.575597722 | 9.52905E-06 | 8.60143E-05 | 0.185185813 | 0 | 17 | 0 | 0 | 8.60143E-05 |
| Potassium (K) | — | 7072.486505 | 144193.2444 | 2 | 288386.4887 | 0.3627503 | 0.3627503 | 7171.814255 | 169285.9952 | 12 | 2031431.942 | 2.555260305 | 2.918010605 | 7065.07291 | 144509.3154 | 2 | 289018.6308 | 0.363545448 | 3.281556053 | 7065.07291 | 0 | 17 | 0 | 0 | 3.281556053 |
| Rubidium (Rb) | — | 33.08146907 | 674.4621357 | 2 | 1348.924271 | 0.00169676 | 0.00169676 | 33.5460734 | 791.8331706 | 12 | 9501.998047 | 0.011952199 | 0.013648959 | 33.04679206 | 675.9405541 | 2 | 1351.881108 | 0.001700479 | 0.015349438 | 33.04679206 | 0 | 17 | 0 | 0 | 0.015349438 |
| Scandium (Sc) | — | 2.141577523 | 43.66229768 | 2 | 87.32459536 | 0.000109842 | 0.000109842 | 2.921711387 | 68.9650906 | 12 | 827.5810873 | 0.001040982 | 0.001150825 | 2.139332657 | 43.75800527 | 2 | 87.51601054 | 0.000110083 | 0.001260908 | 2.139332657 | 0 | 17 | 0 | 0 | 0.001260908 |
| Sodium (Na) | — | 1469.021918 | 29950.29205 | 2 | 59900.58409 | 0.075346647 | 0.075346647 | 1489.653225 | 35162.29223 | 12 | 421947.5067 | 0.530751581 | 0.606098227 | 1467.482044 | 30015.94297 | 2 | 60031.88594 | 0.075511806 | 0.681610034 | 1467.482044 | 0 | 17 | 0 | 0 | 0.681610034 |
| Sulphur (S) | — | 8439.463839 | 172063.0602 | 2 | 344126.1205 | 0.432863045 | 0.432863045 | 8557.989755 | 202005.7633 | 12 | 2424069.159 | 3.049143597 | 3.482006641 | 8430.617335 | 172440.2218 | 2 | 344880.4436 | 0.433811879 | 3.91581852 | 8430.617335 | 0 | 17 | 0 | 0 | 3.91581852 |
| Tantalum (Ta) | — | 0.044173442 | 0.900604317 | 2 | 1.801208634 | 2.26567E-06 | 2.26567E-06 | 0.044793824 | 1.057328994 | 12 | 12.68794793 | 1.59597E-05 | 1.82254E-05 | 0.044127138 | 0.902578438 | 2 | 1.805156876 | 2.27064E-06 | 2.0496E-05 | 0.044127138 | 0 | 17 | 0 | 0 | 2.0496E-05 |
| Technetium (Te) | — | 0.071563273 | 1.459025826 | 2 | 2.918051651 | 3.67051E-06 | 3.67051E-06 | 0.072568325 | 1.712927953 | 12 | 20.55513543 | 2.58555E-05 | 2.9526E-05 | 0.071488258 | 1.462224004 | 2 | 2.924448009 | 3.67855E-06 | 3.32046E-05 | 0.071488258 | 0 | 17 | 0 | 0 | 3.32046E-05 |
| Terbium (Tb) | — | 0.203980498 | 4.158736783 | 2 | 8.317473567 | 1.04622E-05 | 1.04622E-05 | 0.20684525 | 4.882447151 | 12 | 58.58936581 | 7.36973E-05 | 8.41595E-05 | 0.203766679 | 4.167852718 | 2 | 8.335705436 | 1.04852E-05 | 9.46447E-05 | 0.203766679 | 0 | 17 | 0 | 0 | 9.46447E-05 |
| Thorium (Th) | — | 3.759488301 | 76.64812296 | 2 | 153.2962459 | 0.000192825 | 0.000192825 | 5.894757696 | 139.1419085 | 12 | 1669.702902 | 0.002100255 | 0.002293081 | 3.755547491 | 76.81613535 | 2 | 153.6322707 | 0.000193248 | 0.002486329 | 3.755547491 | 0 | 17 | 0 | 0 | 0.002486329 |
| Tungsten (W) | — | 0.491537477 | 10.02142365 | 2 | 20.04284729 | 2.52111E-05 | 2.52111E-05 | 4.222143723 | 99.66094723 | 12 | 1195.931367 | 0.001504316 | 0.001529527 | 0.491022232 | 10.04339057 | 2 | 20.08678113 | 2.52664E-05 | 0.001554794 | 0.491022232 | 0 | 17 | 0 | 0 | 0.001554794 |
| Ytterbium (Yb) | — | 0.251622619 | 5.130060239 | 2 | 10.26012048 | 1.29058E-05 | 1.29058E-05 | 0.255156469 | 6.022801948 | 12 | 72.27362337 | 9.09102E-05 | 0.000103816 | 0.251358861 | 5.141305311 | 2 | 10.28261062 | 1.29341E-05 | 0.00011675 | 0.251358861 | 0 | 17 | 0 | 0 | 0.00011675 |
| Yttrium (Y) | — | 2.965855347 | 60.46760279 | 2 | 120.9352056 | 0.00015212 | 0.00015212 | 3.622320095 | 85.50250194 | 12 | 1026.030023 | 0.001290604 | 0.001442724 | 2.962746447 | 60.60014754 | 2 | 121.2002951 | 0.000152453 | 0.001595177 | 2.962746447 | 0 | 17 | 0 | 0 | 0.001595177 |
| Zirconium (Zr) | — | 14.18644437 | 289.2320032 | 2 | 578.4640063 | 0.000727628 | 0.000727628 | 14.3856823 | 339.5646427 | 12 | 4074.775712 | 0.005125504 | 0.005853132 | 14.1715737 | 289.8659986 | 2 | 579.7319972 | 0.000729223 | 0.006582354 | 14.1715737 | 0 | 17 | 0 | 0 | 0.006582354 |

# Table I-14: Metal Concentrations (µg/g) in Soils- Study Area No. 3 (Project Alone Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

Location 3 (Village of Wabigoon)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 0.119769252 | Dustfall (µg/m²/yr) | 3777043.133 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.0921366 | Dustfall (µg/m²/yr) | 2905619.832 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.116305274 | Dustfall (µg/m²/yr) | 3667803.122 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | — | 4.205961875 | 15.88609942 | 2 | 31.77219884 | 3.9965E-05 | 3.9965E-05 | 7.798625391 | 22.65984059 | 12 | 271.9180871 | 0.000342035 | 0.000382 | 4.202077173 | 15.41239177 | 2 | 30.82478354 | 3.87733E-05 | 0.000420774 | 4.202077173 | 0 | 17 | 0 | 0 | 0.000420774 |
| Arsenic (As) | — | 17.58984634 | 66.43760832 | 2 | 132.8752166 | 0.000167139 | 0.000167139 | 26.0432211 | 75.67169971 | 12 | 908.0603965 | 0.001142214 | 0.001309353 | 17.5749339 | 64.46139742 | 2 | 128.9227948 | 0.000162167 | 0.00147152 | 17.5749339 | 0 | 17 | 0 | 0 | 0.00147152 |
| Barium (Ba) | — | 84.08892108 | 317.607482 | 2 | 635.2149639 | 0.000799013 | 0.000799013 | 119.6985819 | 347.7985734 | 12 | 4173.582881 | 0.00524979 | 0.006048802 | 84.11732519 | 308.5257879 | 2 | 617.0515758 | 0.000776166 | 0.006824968 | 84.11732519 | 0 | 17 | 0 | 0 | 0.006824968 |
| Beryllium (Be) | — | 0.29068946 | 1.097946627 | 2 | 2.195893254 | 2.76213E-06 | 2.76213E-06 | 0.38583977 | 1.121103688 | 12 | 13.45324426 | 1.69223E-05 | 1.96844E-05 | 0.290936083 | 1.067096272 | 2 | 2.134192543 | 2.68452E-06 | 2.2369E-05 | 0.290936083 | 0 | 17 | 0 | 0 | 2.2369E-05 |
| Bismuth (Bi) | — | 0.193628618 | 0.731343642 | 2 | 1.462687285 | 1.83986E-06 | 1.83986E-06 | 1.256815761 | 3.651828799 | 12 | 43.82194559 | 5.51219E-05 | 5.69618E-05 | 0.193949766 | 0.711369557 | 2 | 1.422739113 | 1.78961E-06 | 5.87514E-05 | 0.193949766 | 0 | 17 | 0 | 0 | 5.87514E-05 |
| Boron (B) | — | 31.63720439 | 119.4950856 | 2 | 238.9901712 | 0.000300617 | 0.000300617 | 31.59787597 | 91.81141506 | 12 | 1101.736981 | 0.001385833 | 0.001686449 | 31.60833162 | 115.9331374 | 2 | 231.8662747 | 0.000291656 | 0.001978105 | 31.60833162 | 0 | 17 | 0 | 0 | 0.001978105 |
| Cadmium (Cd) | — | 1.020933681 | 3.85611055 | 2 | 7.712221099 | 9.70091E-06 | 9.70091E-06 | 1.982668966 | 5.760882267 | 12 | 69.1305872 | 8.69567E-05 | 9.66576E-05 | 1.020255143 | 3.742094999 | 2 | 7.484189998 | 9.41408E-06 | 0.000106072 | 1.020255143 | 0 | 17 | 0 | 0 | 0.000106072 |
| Chromium (Cr) | — | 45.0687609 | 170.2266539 | 2 | 340.4533078 | 0.000428243 | 0.000428243 | 55.25757562 | 160.5575076 | 12 | 1926.690091 | 0.00242351 | 0.002851753 | 45.07864895 | 165.3396093 | 2 | 330.6792187 | 0.000415949 | 0.003267701 | 45.07864895 | 0 | 17 | 0 | 0 | 0.003267701 |
| Cobalt (Co) | — | 107.1685093 | 404.7800823 | 2 | 809.5601646 | 0.001018315 | 0.001018315 | 108.3562008 | 314.8419258 | 12 | 3778.103109 | 0.004752331 | 0.005770646 | 107.0680731 | 392.7046127 | 2 | 785.4092254 | 0.000987936 | 0.006758582 | 107.0680731 | 0 | 17 | 0 | 0 | 0.006758582 |
| Copper (Cu) | — | 37.60491899 | 142.0354011 | 2 | 284.0708021 | 0.000357322 | 0.000357322 | 55.39970721 | 160.9704879 | 12 | 1931.645855 | 0.002429743 | 0.002787065 | 37.59131793 | 137.8775533 | 2 | 275.7551065 | 0.000346862 | 0.003133927 | 37.59131793 | 0 | 17 | 0 | 0 | 0.003133927 |
| Iron (Fe) | — | 20773.87634 | 78463.82699 | 2 | 156927.654 | 0.197393275 | 0.197393275 | 17892.58756 | 51989.05726 | 12 | 623868.6872 | 0.784740487 | 0.982133762 | 20780.24763 | 76217.85713 | 2 | 152435.7143 | 0.191743037 | 1.173876799 | 20780.24763 | 0 | 17 | 0 | 0 | 1.173876799 |
| Lead (Pb) | — | 128.9552105 | 487.0693922 | 2 | 974.1387844 | 0.001225332 | 0.001225332 | 267.3260135 | 776.7477662 | 12 | 9320.973194 | 0.011724495 | 0.012949826 | 128.8298109 | 472.5223827 | 2 | 945.0447654 | 0.001188736 | 0.014138562 | 128.8298109 | 0 | 17 | 0 | 0 | 0.014138562 |
| Lithium (Li) | — | 12.90743827 | 48.75195108 | 2 | 97.50390216 | 0.000122646 | 0.000122646 | 12.25816134 | 35.6175567 | 12 | 427.4106804 | 0.000537623 | 0.00066027 | 12.91774151 | 47.37973265 | 2 | 94.7594653 | 0.000119194 | 0.000779464 | 12.91774151 | 0 | 17 | 0 | 0 | 0.000779464 |
| Manganese (Mn) | — | 425.8574877 | 1608.4821 | 2 | 3216.964199 | 0.004046496 | 0.004046496 | 414.9319183 | 1205.634411 | 12 | 14467.61293 | 0.018198255 | 0.022244751 | 425.9869891 | 1562.436408 | 2 | 3124.872817 | 0.003930658 | 0.026175409 | 425.9869891 | 0 | 17 | 0 | 0 | 0.026175409 |
| Mercury (Hg) | — | 0.247303416 | 0.93407567 | 2 | 1.86815134 | 2.34988E-06 | 2.34988E-06 | 0.246140787 | 0.715191553 | 12 | 8.582298633 | 1.07953E-05 | 1.31452E-05 | 0.247085308 | 0.906260265 | 2 | 1.812520529 | 2.2799E-06 | 1.54251E-05 | 0.247085308 | 0 | 17 | 0 | 0 | 1.54251E-05 |
| Molybdenum (Mo) | — | 0.897938167 | 3.391551189 | 2 | 6.783102378 | 8.5322E-06 | 8.5322E-06 | 1.800263876 | 5.23088242 | 12 | 62.77058904 | 7.89567E-05 | 8.74889E-05 | 0.897600602 | 3.29222229 | 2 | 6.58444458 | 8.28232E-06 | 9.57712E-05 | 0.897600602 | 0 | 17 | 0 | 0 | 9.57712E-05 |
| Nickel (Ni) | — | 22.16294633 | 83.71040425 | 2 | 167.4208085 | 0.000210592 | 0.000210592 | 22.72477316 | 66.02955156 | 12 | 792.3546187 | 0.000996672 | 0.001207265 | 22.1721202 | 81.32297168 | 2 | 162.6459434 | 0.000204586 | 0.001411851 | 22.1721202 | 0 | 17 | 0 | 0 | 0.001411851 |
| Phosphorus (P) | — | 517.8301236 | 1955.866713 | 2 | 3911.733425 | 0.004920419 | 0.004920419 | 507.8330691 | 1475.569837 | 12 | 17706.83804 | 0.022272752 | 0.027193172 | 517.8662983 | 1899.431625 | 2 | 3798.863251 | 0.004778444 | 0.031971616 | 517.8662983 | 0 | 17 | 0 | 0 | 0.031971616 |
| Selenium (Se) | — | 0.058265583 | 0.220071619 | 2 | 0.440143238 | 5.53639E-07 | 5.53639E-07 | 1.207055384 | 3.507244062 | 12 | 42.08692674 | 5.29395E-05 | 5.34932E-05 | 0.058728622 | 0.215405024 | 2 | 0.430810047 | 5.41899E-07 | 5.40351E-05 | 0.058728622 | 0 | 17 | 0 | 0 | 5.40351E-05 |
| Silver (Ag) | — | 1.139846415 | 4.305249074 | 2 | 8.610498147 | 1.08308E-05 | 1.08308E-05 | 3.437039883 | 9.986731245 | 12 | 119.8407749 | 0.000150743 | 0.000161574 | 1.138774602 | 4.176801041 | 2 | 8.353602083 | 1.05077E-05 | 0.000172082 | 1.138774602 | 0 | 17 | 0 | 0 | 0.000172082 |
| Strontium (Sr) | — | 20.81624026 | 78.62383732 | 2 | 157.2476746 | 0.000197796 | 0.000197796 | 26.8088704 | 77.8963855 | 12 | 934.756626 | 0.001175794 | 0.00137359 | 20.83774548 | 76.42874791 | 2 | 152.8574958 | 0.000192274 | 0.001565864 | 20.83774548 | 0 | 17 | 0 | 0 | 0.001565864 |
| Thallium (Tl) | — | 0.292853866 | 1.106121682 | 2 | 2.212243364 | 2.7827E-06 | 2.7827E-06 | 1.559570851 | 4.531519993 | 12 | 54.37823992 | 6.84003E-05 | 7.1183E-05 | 0.292808945 | 1.073965562 | 2 | 2.147931124 | 2.7018E-06 | 7.38848E-05 | 0.292808945 | 0 | 17 | 0 | 0 | 7.38848E-05 |
| Tin (Sn) | — | 1.055959902 | 3.988406099 | 2 | 7.976812197 | 1.00337E-05 | 1.00337E-05 | 10.82682598 | 31.45864028 | 12 | 377.5036833 | 0.000474847 | 0.000484881 | 1.057473589 | 3.878604932 | 2 | 7.757209863 | 9.7575E-06 | 0.000494639 | 1.057473589 | 0 | 17 | 0 | 0 | 0.000494639 |
| Titanium (Ti) | — | 845.1292387 | 3192.089588 | 2 | 6384.179176 | 0.008030414 | 0.008030414 | 824.4525443 | 2395.545663 | 12 | 28746.54795 | 0.03615918 | 0.044189594 | 845.8795361 | 3102.519603 | 2 | 6205.039206 | 0.007805081 | 0.051994675 | 845.8795361 | 0 | 17 | 0 | 0 | 0.051994675 |
| Uranium (U) | — | 0.886324697 | 3.34768661 | 2 | 6.69537322 | 8.42185E-06 | 8.42185E-06 | 1.880923687 | 5.465249166 | 12 | 65.58298999 | 8.24943E-05 | 9.09162E-05 | 0.885919739 | 3.249379186 | 2 | 6.498758372 | 8.17454E-06 | 9.90907E-05 | 0.885919739 | 0 | 17 | 0 | 0 | 9.90907E-05 |
| Vanadium (V) | — | 24.68669143 | 93.24269836 | 2 | 186.4853967 | 0.000234573 | 0.000234573 | 22.34313435 | 64.92065427 | 12 | 779.0478513 | 0.000979934 | 0.001214507 | 24.71913205 | 90.66490968 | 2 | 181.3298194 | 0.000228088 | 0.001442595 | 24.71913205 | 0 | 17 | 0 | 0 | 0.001442595 |
| Zinc (Zn) | — | 400.0174966 | 1510.883339 | 2 | 3021.766677 | 0.003800964 | 0.003800964 | 684.2124522 | 1988.06127 | 12 | 23856.73524 | 0.030008472 | 0.033809436 | 399.6687376 | 1465.906243 | 2 | 2931.812486 | 0.003687814 | 0.037497251 | 399.6687376 | 0 | 17 | 0 | 0 | 0.037497251 |
| Aluminum (Al) | — | 14537.60434 | 54909.15865 | 2 | 109818.3173 | 0.138136248 | 0.138136248 | 14741.77405 | 42833.99103 | 12 | 514007.8924 | 0.646550808 | 0.784687056 | 14522.36558 | 53265.17781 | 2 | 106530.3556 | 0.134000447 | 0.918687504 | 14522.36558 | 0 | 17 | 0 | 0 | 0.918687504 |
| Calcium (Ca) | — | 5288.588118 | 19975.22544 | 2 | 39950.45087 | 0.050252139 | 0.050252139 | 5362.862357 | 15582.43922 | 12 | 186989.2706 | 0.23520663 | 0.285458769 | 5283.044459 | 19377.16696 | 2 | 38754.33391 | 0.04874759 | 0.334206359 | 5283.044459 | 0 | 17 | 0 | 0 | 0.334206359 |
| Cerium (Ce) | — | 32.67889168 | 123.4295834 | 2 | 246.8591668 | 0.000310515 | 0.000310515 | 33.13784211 | 96.28597121 | 12 | 1155.431655 | 0.001453373 | 0.001763888 | 32.64463667 | 119.7341003 | 2 | 239.4682005 | 0.000301218 | 0.002065106 | 32.64463667 | 0 | 17 | 0 | 0 | 0.002065106 |
| Cesium (Cs) | — | 5.104702094 | 19.28067999 | 2 | 38.56135998 | 4.85049E-05 | 4.85049E-05 | 5.176393792 | 15.04063246 | 12 | 180.4875895 | 0.000227028 | 0.000275533 | 5.099351189 | 18.70341621 | 2 | 37.40683242 | 4.70526E-05 | 0.000322586 | 5.099351189 | 0 | 17 | 0 | 0 | 0.000322586 |
| Gallium (Ga) | — | 6.200931756 | 23.42118671 | 2 | 46.84237342 | 5.89212E-05 | 5.89212E-05 | 8.390280227 | 24.37896462 | 12 | 292.5475754 | 0.000367984 | 0.000426906 | 6.19443175 | 22.71995611 | 2 | 45.43991222 | 5.71571E-05 | 0.000484063 | 6.19443175 | 0 | 17 | 0 | 0 | 0.000484063 |
| Germanium (Ge) | — | 0.096184722 | 0.363293844 | 2 | 0.726587688 | 9.13947E-07 | 9.13947E-07 | 0.097535564 | 0.283401269 | 12 | 3.400815231 | 4.27776E-06 | 5.1917E-06 | 0.096083898 | 0.352416822 | 2 | 0.704833644 | 8.86583E-07 | 6.07828E-06 | 0.096083898 | 0 | 17 | 0 | 0 | 6.07828E-06 |
| Hafnium (Hf) | — | 0.364128902 | 1.375330571 | 2 | 2.750661141 | 3.45995E-06 | 3.45995E-06 | 0.369242819 | 1.072879257 | 12 | 12.87455108 | 1.61944E-05 | 1.96544E-05 | 0.363747211 | 1.334153158 | 2 | 2.668306315 | 3.35636E-06 | 2.30107E-05 | 0.363747211 | 0 | 17 | 0 | 0 | 2.30107E-05 |
| Indium (In) | — | 0.01815208 | 0.068561188 | 2 | 0.137122375 | 1.72481E-07 | 1.72481E-07 | 0.018407012 | 0.053483779 | 12 | 0.641805345 | 8.07302E-07 | 9.79783E-07 | 0.018133052 | 0.066508465 | 2 | 0.13301693 | 1.67317E-07 | 1.1471E-06 | 0.018133052 | 0 | 17 | 0 | 0 | 1.1471E-06 |
| Lanthanum (La) | — | 16.71463616 | 63.13190175 | 2 | 126.2638035 | 0.000158822 | 0.000158822 | 18.94579509 | 55.04927793 | 12 | 660.5913352 | 0.000830932 | 0.000989755 | 16.69711537 | 61.24173189 | 2 | 122.4834638 | 0.000154067 | 0.001143822 | 16.69711537 | 0 | 17 | 0 | 0 | 0.001143822 |
| Luthetium (Lu) | — | 0.034478063 | 0.130225132 | 2 | 0.260450265 | 3.2761E-07 | 3.2761E-07 | 0.034962282 | 0.101587099 | 12 | 1.219045191 | 1.53339E-06 | 1.861E-06 | 0.034441922 | 0.12632619 | 2 | 0.252652381 | 3.17802E-07 | 2.1788E-06 | 0.034441922 | 0 | 17 | 0 | 0 | 2.1788E-06 |
| Magnesium (Mg) | — | 7845.417352 | 29632.47974 | 2 | 59264.95948 | 0.074547119 | 0.074547119 | 7955.600333 | 23115.9501 | 12 | 277391.4012 | 0.348920002 | 0.42346712 | 7837.193547 | 28745.28295 | 2 | 57490.56591 | 0.072315177 | 0.495782298 | 7837.193547 | 0 | 17 | 0 | 0 | 0.495782298 |
| Niobium (Nb) | — | 0.185380135 | 0.700188764 | 2 | 1.400377528 | 1.76148E-06 | 1.76148E-06 | 0.187983659 | 0.546209048 | 12 | 6.55450857 | 8.24466E-06 | 1.00061E-05 | 0.185185813 | 0.679225105 | 2 | 1.358450209 | 1.70874E-06 | 1.17149E-05 | 0.185185813 | 0 | 17 | 0 | 0 | 1.17149E-05 |
| Potassium (K) | — | 7072.486505 | 26713.08659 | 2 | 53426.17318 | 0.067202734 | 0.067202734 | 7171.814255 | 20838.56573 | 12 | 250062.7887 | 0.314544388 | 0.381747122 | 7065.07291 | 25913.29647 | 2 | 51826.59294 | 0.065190683 | 0.446937805 | 7065.07291 | 0 | 17 | 0 | 0 | 0.446937805 |
| Rubidium (Rb) | — | 33.08146907 | 124.9501356 | 2 | 249.9002712 | 0.00031434 | 0.00031434 | 33.5460734 | 97.47213613 | 12 | 1169.665634 | 0.001471278 | 0.001785617 | 33.04679206 | 121.2091271 | 2 | 242.4182542 | 0.000304929 | 0.002090546 | 33.04679206 | 0 | 17 | 0 | 0 | 0.002090546 |
| Scandium (Sc) | — | 2.141577523 | 8.088830679 | 2 | 16.17766136 | 2.03493E-05 | 2.03493E-05 | 2.921711387 | 8.489382549 | 12 | 101.8725906 | 0.000128142 | 0.000148491 | 2.139332657 | 7.846650996 | 2 | 15.69330199 | 1.974E-05 | 0.000168231 | 2.139332657 | 0 | 17 | 0 | 0 | 0.000168231 |
| Sodium (Na) | — | 1469.021918 | 5548.559147 | 2 | 11097.11829 | 0.013958639 | 0.013958639 | 1489.653225 | 4328.365951 | 12 | 51940.39142 | 0.065333826 | 0.079292465 | 1467.482044 | 5382.435222 | 2 | 10764.87044 | 0.013540718 | 0.092833183 | 1467.482044 | 0 | 17 | 0 | 0 | 0.092833183 |
| Sulphur (S) | — | 8439.463839 | 31876.21894 | 2 | 63752.43788 | 0.080191746 | 0.080191746 | 8557.989755 | 24866.26475 | 12 | 298395.177 | 0.375339845 | 0.455531591 | 8430.617335 | 30921.84458 | 2 | 61843.68916 | 0.077790804 | 0.533322395 | 8430.617335 | 0 | 17 | 0 | 0 | 0.533322395 |
| Tantalum (Ta) | — | 0.044173442 | 0.166844995 | 2 | 0.33368999 | 4.19736E-07 | 4.19736E-07 | 0.044793824 | 0.130153825 | 12 | 1.561845897 | 1.96459E-06 | 2.38432E-06 | 0.044127138 | 0.161849654 | 2 | 0.323699307 | 4.07169E-07 | 2.79149E-06 | 0.044127138 | 0 | 17 | 0 | 0 | 2.79149E-06 |
| Technetium (Te) | — | 0.071563273 | 0.270297568 | 2 | 0.540595135 | 6.79994E-07 | 6.79994E-07 | 0.072568325 | 0.210855964 | 12 | 2.53027157 | 3.18273E-06 | 3.86273E-06 | 0.071488258 | 0.262204855 | 2 | 0.524409711 | 6.59635E-07 | 4.52236E-06 | 0.071488258 | 0 | 17 | 0 | 0 | 4.52236E-06 |
| Terbium (Tb) | — | 0.203980498 | 0.770443139 | 2 | 1.540886278 | 1.93822E-06 | 1.93822E-06 | 0.20684525 | 0.601013662 | 12 | 7.212163941 | 9.0719E-06 | 1.10101E-05 | 0.203766679 | 0.747376063 | 2 | 1.494752125 | 1.88019E-06 | 1.28903E-05 | 0.203766679 | 0 | 17 | 0 | 0 | 1.28903E-05 |
| Thorium (Th) | — | 3.759488301 | 14.19974947 | 2 | 28.39949895 | 3.57226E-05 | 3.57226E-05 | 5.894757696 | 17.12792486 | 12 | 205.5350983 | 0.000258535 | 0.000294257 | 3.755547491 | 13.77460881 | 2 | 27.54921762 | 3.46531E-05 | 0.00032891 | 3.755547491 | 0 | 17 | 0 | 0 | 0.00032891 |
| Tungsten (W) | — | 0.491537477 | 1.856558251 | 2 | 3.713116502 | 4.67059E-06 | 4.67059E-06 | 4.222143723 | 12.26794453 | 12 | 147.2153344 | 0.000185177 | 0.000189847 | 0.491022232 | 1.800972876 | 2 | 3.601945752 | 4.53075E-06 | 0.000194378 | 0.491022232 | 0 | 17 | 0 | 0 | 0.000194378 |
| Ytterbium (Yb) | — | 0.251622619 | 0.950389486 | 2 | 1.900778972 | 2.39092E-06 | 2.39092E-06 | 0.255156469 | 0.741387698 | 12 | 8.896652373 | 1.11908E-05 | 1.35817E-05 | 0.251358861 | 0.921934814 | 2 | 1.843869628 | 2.31933E-06 | 1.5901E-05 | 0.251358861 | 0 | 17 | 0 | 0 | 1.5901E-05 |
| Yttrium (Y) | — | 2.965855347 | 11.20216357 | 2 | 22.40432714 | 2.81815E-05 | 2.81815E-05 | 3.622320095 | 10.5250851 | 12 | 126.3010213 | 0.000158869 | 0.000187051 | 2.962746447 | 10.86677067 | 2 | 21.73354133 | 2.73378E-05 | 0.000214389 | 2.962746447 | 0 | 17 | 0 | 0 | 0.000214389 |
| Zirconium (Zr) | — | 14.18644437 | 53.58281228 | 2 | 107.1656246 | 0.0001348 | 0.0001348 | 14.3856823 | 41.79932378 | 12 | 501.5918854 | 0.000630933 | 0.000765733 | 14.1715737 | 51.97854227 | 2 | 103.9570845 | 0.000130764 | 0.000896496 | 14.1715737 | 0 | 17 | 0 | 0 | 0.000896496 |

# Table I-15: Metal Concentrations (µg/g) in Soils- Study Area No. 3 (Project Assessment Scenario) - 95th Percent Upper Confident Limit of the Mean

Location 3 (Village of Wabigoon)

| | | Site Preparation and Construction | | | | | | Operations | | | | | | Closure | | | | | | Post-closure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dustfall (µg/m²/s) | 0.119769252 | Dustfall (µg/m²/yr) | 3777043.133 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.0921366 | Dustfall (µg/m²/yr) | 2905619.832 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0.116305274 | Dustfall (µg/m²/yr) | 3667803.122 | Soil Density (g/cm³) | 2.65 | Dustfall (µg/m²/s) | 0 | Dustfall (µg/m²/yr) | 0 | Soil Density (g/cm³) | 2.65 |
| Parameter and Symbol | Baseline Soil Concentration | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) | Deposition Speciation | Metals Deposition (µg/m²/yr) | Number of Years | Metals Deposition (µg) | Increased Soil Concentration (µg/g, based on 30 cm mixing) | Exposure Point Soil Concentration (µg/g) |
| Antimony (Sb) | 0.5 | 4.205961875 | 15.88609942 | 2 | 31.77219884 | 3.9965E-05 | 0.500039965 | 7.798625391 | 22.65984059 | 12 | 271.9180871 | 0.000342035 | 0.500382 | 4.202077173 | 15.41239177 | 2 | 30.82478354 | 3.87733E-05 | 0.500420774 | 4.202077173 | 0 | 17 | 0 | 0 | 0.500420774 |
| Arsenic (As) | 3.363552072 | 17.58984634 | 66.43760832 | 2 | 132.8752166 | 0.000167139 | 3.36371921 | 26.0432211 | 75.67169971 | 12 | 908.0603965 | 0.001142214 | 3.364861425 | 17.5749339 | 64.46139742 | 2 | 128.9227948 | 0.000162167 | 3.365023592 | 17.5749339 | 0 | 17 | 0 | 0 | 3.365023592 |
| Barium (Ba) | 111.1861178 | 84.08892108 | 317.607482 | 2 | 635.2149639 | 0.000799013 | 111.1869168 | 119.6985819 | 347.7985734 | 12 | 4173.582881 | 0.00524979 | 111.1921666 | 84.11732519 | 308.5257879 | 2 | 617.0515758 | 0.000776166 | 111.1929427 | 84.11732519 | 0 | 17 | 0 | 0 | 111.1929427 |
| Beryllium (Be) | 0.525965023 | 0.29068946 | 1.097946627 | 2 | 2.195893254 | 2.76213E-06 | 0.525967785 | 0.38583977 | 1.121103688 | 12 | 13.45324426 | 1.69223E-05 | 0.525984707 | 0.290936083 | 1.067096272 | 2 | 2.134192543 | 2.68452E-06 | 0.525987392 | 0.290936083 | 0 | 17 | 0 | 0 | 0.525987392 |
| Bismuth (Bi) | 0.5 | 0.193628618 | 0.731343642 | 2 | 1.462687285 | 1.83986E-06 | 0.50000184 | 1.256815761 | 3.651828799 | 12 | 43.82194559 | 5.51219E-05 | 0.500056962 | 0.193949766 | 0.711369557 | 2 | 1.422739113 | 1.78961E-06 | 0.500058751 | 0.193949766 | 0 | 17 | 0 | 0 | 0.500058751 |
| Boron (B) | 4.092902737 | 31.63720439 | 119.4950856 | 2 | 238.9901712 | 0.000300617 | 4.093203353 | 31.59787597 | 91.81141506 | 12 | 1101.736981 | 0.001385833 | 4.094589186 | 31.60833162 | 115.9331374 | 2 | 231.8662747 | 0.000291656 | 4.094880842 | 31.60833162 | 0 | 17 | 0 | 0 | 4.094880842 |
| Cadmium (Cd) | 0.373616223 | 1.020933681 | 3.85611055 | 2 | 7.712221099 | 9.70091E-06 | 0.373625924 | 1.982668966 | 5.760882267 | 12 | 69.1305872 | 8.69567E-05 | 0.37371288 | 1.020255143 | 3.742094999 | 2 | 7.484189998 | 9.41408E-06 | 0.373722295 | 1.020255143 | 0 | 17 | 0 | 0 | 0.373722295 |
| Chromium (Cr) | 54.50185026 | 45.0687609 | 170.2266539 | 2 | 340.4533078 | 0.000428243 | 54.50227851 | 55.25757562 | 160.5575076 | 12 | 1926.690091 | 0.00242351 | 54.50470202 | 45.07864895 | 165.3396093 | 2 | 330.6792187 | 0.000415949 | 54.50511796 | 45.07864895 | 0 | 17 | 0 | 0 | 54.50511796 |
| Cobalt (Co) | 11.35346769 | 107.1685093 | 404.7800823 | 2 | 809.5601646 | 0.001018315 | 11.354486 | 108.3562008 | 314.8419258 | 12 | 3778.103109 | 0.004752331 | 11.35923833 | 107.0680731 | 392.7046127 | 2 | 785.4092254 | 0.000987936 | 11.36022627 | 107.0680731 | 0 | 17 | 0 | 0 | 11.36022627 |
| Copper (Cu) | 24.62966637 | 37.60491899 | 142.0354011 | 2 | 284.0708021 | 0.000357322 | 24.6300237 | 55.39970721 | 160.9704879 | 12 | 1931.645855 | 0.002429743 | 24.63245344 | 37.59131793 | 137.8775533 | 2 | 275.7551065 | 0.000346862 | 24.6328003 | 37.59131793 | 0 | 17 | 0 | 0 | 24.6328003 |
| Iron (Fe) | 26852.01355 | 20773.87634 | 78463.82699 | 2 | 156927.654 | 0.197393275 | 26852.21094 | 17892.58756 | 51989.05726 | 12 | 623868.6872 | 0.784740487 | 26852.99568 | 20780.24763 | 76217.85713 | 2 | 152435.7143 | 0.191743037 | 26853.18742 | 20780.24763 | 0 | 17 | 0 | 0 | 26853.18742 |
| Lead (Pb) | 9.325484655 | 128.9552105 | 487.0693922 | 2 | 974.1387844 | 0.001225332 | 9.326709987 | 267.3260135 | 776.7477662 | 12 | 9320.973194 | 0.011724495 | 9.338434482 | 128.8298109 | 472.5223827 | 2 | 945.0447654 | 0.001188736 | 9.339623217 | 128.8298109 | 0 | 17 | 0 | 0 | 9.339623217 |
| Lithium (Li) | 22.73661853 | 12.90743827 | 48.75195108 | 2 | 97.50390216 | 0.000122646 | 22.73674117 | 12.25816134 | 35.6175567 | 12 | 427.4106804 | 0.000537623 | 22.7372788 | 12.91774151 | 47.37973265 | 2 | 94.7594653 | 0.000119194 | 22.73739799 | 12.91774151 | 0 | 17 | 0 | 0 | 22.73739799 |
| Manganese (Mn) | 549.4003304 | 425.8574877 | 1608.4821 | 2 | 3216.964199 | 0.004046496 | 549.4043769 | 414.9319183 | 1205.634411 | 12 | 14467.61293 | 0.018198255 | 549.4225751 | 425.9869891 | 1562.436408 | 2 | 3124.872817 | 0.003930658 | 549.4265058 | 425.9869891 | 0 | 17 | 0 | 0 | 549.4265058 |
| Mercury (Hg) | 0.039230831 | 0.247303416 | 0.934075674 | 2 | 1.86815134 | 2.34988E-06 | 0.039233181 | 0.246140787 | 0.715191553 | 12 | 8.582298633 | 1.07953E-05 | 0.039243976 | 0.247085308 | 0.906260265 | 2 | 1.812520529 | 2.2799E-06 | 0.039246256 | 0.247085308 | 0 | 17 | 0 | 0 | 0.039246256 |
| Molybdenum (Mo) | 0.575904698 | 0.897938167 | 3.391551189 | 2 | 6.783102378 | 8.5322E-06 | 0.57591323 | 1.800263876 | 5.23088242 | 12 | 62.77058904 | 7.89567E-05 | 0.575992187 | 0.897600602 | 3.29222229 | 2 | 6.58444458 | 8.28232E-06 | 0.576000469 | 0.897600602 | 0 | 17 | 0 | 0 | 0.576000469 |
| Nickel (Ni) | 30.91471598 | 22.16294633 | 83.71040425 | 2 | 167.4208085 | 0.000210592 | 30.91492657 | 22.72477316 | 66.02955156 | 12 | 792.3546187 | 0.000996672 | 30.91592324 | 22.1721202 | 81.32297168 | 2 | 162.6459434 | 0.000204586 | 30.91612783 | 22.1721202 | 0 | 17 | 0 | 0 | 30.91612783 |
| Phosphorus (P) | 552.3403097 | 517.8301236 | 1955.866713 | 2 | 3911.733425 | 0.004920419 | 552.3452302 | 507.8330691 | 1475.569837 | 12 | 17706.83804 | 0.022272752 | 552.3675029 | 517.8662983 | 1899.431625 | 2 | 3798.863251 | 0.004778444 | 552.3722814 | 517.8662983 | 0 | 17 | 0 | 0 | 552.3722814 |
| Selenium (Se) | 0.5 | 0.058265583 | 0.220071619 | 2 | 0.440143238 | 5.53639E-07 | 0.500000554 | 1.207055384 | 3.507244062 | 12 | 42.08692874 | 5.29395E-05 | 0.500053493 | 0.058728622 | 0.215405024 | 2 | 0.430810047 | 5.41899E-07 | 0.500054035 | 0.058728622 | 0 | 17 | 0 | 0 | 0.500054035 |
| Silver (Ag) | 0.117349645 | 1.139846415 | 4.305249074 | 2 | 8.610498147 | 1.08308E-05 | 0.117360476 | 3.437039883 | 9.986731245 | 12 | 119.8407749 | 0.000150743 | 0.117511219 | 1.138774602 | 4.176801041 | 2 | 8.353602083 | 1.05077E-05 | 0.117521727 | 1.138774602 | 0 | 17 | 0 | 0 | 0.117521727 |
| Strontium (Sr) | 41.33197775 | 20.81624026 | 78.62383732 | 2 | 157.2476746 | 0.000197796 | 41.33217555 | 26.8088704 | 77.8963855 | 12 | 934.756626 | 0.001175794 | 41.33335134 | 20.83774548 | 76.42874791 | 2 | 152.8574958 | 0.000192274 | 41.33354362 | 20.83774548 | 0 | 17 | 0 | 0 | 41.33354362 |
| Thallium (Tl) | 0.25 | 0.292853866 | 1.106121682 | 2 | 2.212243364 | 2.7827E-06 | 0.250002783 | 1.559570851 | 4.531519993 | 12 | 54.37823992 | 6.84003E-05 | 0.250071183 | 0.292808945 | 1.073965562 | 2 | 2.147931124 | 2.7018E-06 | 0.250073885 | 0.292808945 | 0 | 17 | 0 | 0 | 0.250073885 |
| Tin (Sn) | 2.5 | 1.055959902 | 3.988406099 | 2 | 7.976812197 | 1.00337E-05 | 2.500010034 | 10.82682598 | 31.45864028 | 12 | 377.5036833 | 0.000474847 | 2.500484881 | 1.057473589 | 3.987604932 | 2 | 7.757209863 | 9.7575E-06 | 2.500494639 | 1.057473589 | 0 | 17 | 0 | 0 | 2.500494639 |
| Titanium (Ti) | 1560.904401 | 845.1292387 | 3192.089588 | 2 | 6384.179176 | 0.008030414 | 1560.912432 | 824.4525443 | 2395.545663 | 12 | 28746.54795 | 0.03615918 | 1560.948591 | 845.8795361 | 3102.519603 | 2 | 6205.039206 | 0.007805081 | 1560.956396 | 845.8795361 | 0 | 17 | 0 | 0 | 1560.956396 |
| Uranium (U) | 0.5 | 0.886324697 | 3.34768661 | 2 | 6.69537322 | 8.42185E-06 | 0.500008422 | 1.880923687 | 5.465249166 | 12 | 65.58298999 | 8.24943E-05 | 0.500090916 | 0.885919739 | 3.249379186 | 2 | 6.498758372 | 8.17454E-06 | 0.500099091 | 0.885919739 | 0 | 17 | 0 | 0 | 0.500099091 |
| Vanadium (V) | 55.63466816 | 24.68669143 | 93.24269836 | 2 | 186.4853967 | 0.000234573 | 55.63490273 | 22.34313435 | 64.92065427 | 12 | 779.0478513 | 0.000979934 | 55.63588267 | 24.71913205 | 90.66490968 | 2 | 181.3298194 | 0.000228088 | 55.63611075 | 24.71913205 | 0 | 17 | 0 | 0 | 55.63611075 |
| Zinc (Zn) | 67.30535403 | 400.0174966 | 1510.883339 | 2 | 3021.766677 | 0.003800964 | 67.309155 | 684.2124522 | 1988.06127 | 12 | 23856.73524 | 0.030008472 | 67.33916347 | 399.6687376 | 1465.906243 | 2 | 2931.812486 | 0.003687814 | 67.34285128 | 399.6687376 | 0 | 17 | 0 | 0 | 67.34285128 |
| Aluminum (Al) | — | 14537.60434 | 54909.15865 | 2 | 109818.3173 | 0.138136248 | 0.138136248 | 14741.77405 | 42833.99103 | 12 | 514007.8924 | 0.646550808 | 0.784687056 | 14522.36558 | 53265.17781 | 2 | 106530.3556 | 0.134000447 | 0.918687504 | 14522.36558 | 0 | 17 | 0 | 0 | 0.918687504 |
| Calcium (Ca) | — | 5288.588118 | 19975.22544 | 2 | 39950.45087 | 0.050252139 | 0.050252139 | 5362.862357 | 15582.43922 | 12 | 186989.2706 | 0.23520663 | 0.285458769 | 5283.044459 | 19377.16696 | 2 | 38754.33391 | 0.04874759 | 0.334206359 | 5283.044459 | 0 | 17 | 0 | 0 | 0.334206359 |
| Cerium (Ce) | — | 32.67889168 | 123.4295834 | 2 | 246.8591668 | 0.000310515 | 0.000310515 | 33.13784211 | 96.28597121 | 12 | 1155.431655 | 0.001453373 | 0.001763888 | 32.64463667 | 119.7341003 | 2 | 239.4682005 | 0.000301218 | 0.002065106 | 32.64463667 | 0 | 17 | 0 | 0 | 0.002065106 |
| Cesium (Cs) | — | 5.104702094 | 19.28067999 | 2 | 38.56135998 | 4.85049E-05 | 4.85049E-05 | 5.176393792 | 15.04063246 | 12 | 180.4875895 | 0.000227028 | 0.000275533 | 5.099351189 | 18.70341621 | 2 | 37.40683242 | 4.70526E-05 | 0.000322586 | 5.099351189 | 0 | 17 | 0 | 0 | 0.000322586 |
| Gallium (Ga) | — | 6.200931756 | 23.42118671 | 2 | 46.84237342 | 5.89212E-05 | 5.89212E-05 | 8.390280227 | 24.37896462 | 12 | 292.5475754 | 0.000367984 | 0.000426906 | 6.19443175 | 22.71995611 | 2 | 45.43991222 | 5.71571E-05 | 0.000484063 | 6.19443175 | 0 | 17 | 0 | 0 | 0.000484063 |
| Germanium (Ge) | — | 0.096184722 | 0.363293844 | 2 | 0.726587688 | 9.13947E-07 | 9.13947E-07 | 0.097535564 | 0.283401269 | 12 | 3.400815231 | 4.27776E-06 | 5.1917E-06 | 0.096083898 | 0.352416822 | 2 | 0.704833644 | 8.86583E-07 | 6.07828E-06 | 0.096083898 | 0 | 17 | 0 | 0 | 6.07828E-06 |
| Hafnium (Hf) | — | 0.364128902 | 1.375330571 | 2 | 2.750661141 | 3.45995E-06 | 3.45995E-06 | 0.369242819 | 1.072879257 | 12 | 12.87455108 | 1.61944E-05 | 1.96544E-05 | 0.363747211 | 1.334153158 | 2 | 2.668306315 | 3.35636E-06 | 2.30107E-05 | 0.363747211 | 0 | 17 | 0 | 0 | 2.30107E-05 |
| Indium (In) | — | 0.01815208 | 0.068561188 | 2 | 0.137122375 | 1.72481E-07 | 1.72481E-07 | 0.018407012 | 0.053483779 | 12 | 0.641805345 | 8.07302E-07 | 9.79783E-07 | 0.018133052 | 0.066508465 | 2 | 0.13301693 | 1.67317E-07 | 1.1471E-06 | 0.018133052 | 0 | 17 | 0 | 0 | 1.1471E-06 |
| Lanthanum (La) | — | 16.71463616 | 63.13190175 | 2 | 126.2638035 | 0.000158822 | 0.000158822 | 18.94579509 | 55.04927793 | 12 | 660.5913352 | 0.000830932 | 0.000989755 | 16.69711537 | 61.24173189 | 2 | 122.4834638 | 0.000154067 | 0.001143822 | 16.69711537 | 0 | 17 | 0 | 0 | 0.001143822 |
| Luthetium (Lu) | — | 0.034478063 | 0.130225132 | 2 | 0.260450265 | 3.2761E-07 | 3.2761E-07 | 0.034962282 | 0.101587099 | 12 | 1.219045191 | 1.53339E-06 | 1.861E-06 | 0.034441922 | 0.12632619 | 2 | 0.252652381 | 3.17802E-07 | 2.1788E-06 | 0.034441922 | 0 | 17 | 0 | 0 | 2.1788E-06 |
| Magnesium (Mg) | — | 7845.417352 | 29632.47974 | 2 | 59264.95948 | 0.074547119 | 0.074547119 | 7955.600333 | 23115.9501 | 12 | 277391.4012 | 0.348920002 | 0.42346712 | 7837.193547 | 28745.28295 | 2 | 57490.56591 | 0.072315177 | 0.495782298 | 7837.193547 | 0 | 17 | 0 | 0 | 0.495782298 |
| Niobium (Nb) | — | 0.185380135 | 0.700188764 | 2 | 1.400377528 | 1.76148E-06 | 1.76148E-06 | 0.187983659 | 0.546209048 | 12 | 6.55450857 | 8.24466E-06 | 1.00061E-05 | 0.185185813 | 0.679225105 | 2 | 1.358450209 | 1.70874E-06 | 1.17149E-05 | 0.185185813 | 0 | 17 | 0 | 0 | 1.17149E-05 |
| Potassium (K) | — | 7072.486505 | 26713.08659 | 2 | 53426.17318 | 0.067202734 | 0.067202734 | 7171.814255 | 20838.56573 | 12 | 250062.7887 | 0.314544388 | 0.381747122 | 7065.07291 | 25913.29647 | 2 | 51826.59294 | 0.065190683 | 0.446937805 | 7065.07291 | 0 | 17 | 0 | 0 | 0.446937805 |
| Rubidium (Rb) | — | 33.08146907 | 124.9501356 | 2 | 249.9002712 | 0.00031434 | 0.00031434 | 33.5460734 | 97.47213613 | 12 | 1169.665634 | 0.001471278 | 0.001785617 | 33.04679206 | 121.2091271 | 2 | 242.4182542 | 0.000304929 | 0.002090546 | 33.04679206 | 0 | 17 | 0 | 0 | 0.002090546 |
| Scandium (Sc) | — | 2.141577523 | 8.088830679 | 2 | 16.17766136 | 2.03493E-05 | 2.03493E-05 | 2.921711387 | 8.489382549 | 12 | 101.8725906 | 0.000128142 | 0.000148491 | 2.139332657 | 7.846650996 | 2 | 15.69330199 | 1.974E-05 | 0.000168231 | 2.139332657 | 0 | 17 | 0 | 0 | 0.000168231 |
| Sodium (Na) | — | 1469.021918 | 5548.559147 | 2 | 11097.11829 | 0.013958639 | 0.013958639 | 1489.653225 | 4328.365951 | 12 | 51940.39142 | 0.065333826 | 0.079292465 | 1467.482044 | 5382.435222 | 2 | 10764.87044 | 0.013540718 | 0.092833183 | 1467.482044 | 0 | 17 | 0 | 0 | 0.092833183 |
| Sulphur (S) | — | 8439.463839 | 31876.21894 | 2 | 63752.43788 | 0.080191746 | 0.080191746 | 8557.989755 | 24866.26475 | 12 | 298395.177 | 0.375339845 | 0.455531591 | 8430.617335 | 30921.84458 | 2 | 61843.68916 | 0.077790804 | 0.533322395 | 8430.617335 | 0 | 17 | 0 | 0 | 0.533322395 |
| Tantalum (Ta) | — | 0.044173442 | 0.166844995 | 2 | 0.33368999 | 4.19736E-07 | 4.19736E-07 | 0.044793824 | 0.130153825 | 12 | 1.561845897 | 1.96459E-06 | 2.38432E-06 | 0.044127138 | 0.161849654 | 2 | 0.323699307 | 4.07169E-07 | 2.79149E-06 | 0.044127138 | 0 | 17 | 0 | 0 | 2.79149E-06 |
| Technetium (Te) | — | 0.071563273 | 0.270297568 | 2 | 0.540595135 | 6.79994E-07 | 6.79994E-07 | 0.072568325 | 0.210855964 | 12 | 2.53027157 | 3.18273E-06 | 3.86273E-06 | 0.071488258 | 0.262204855 | 2 | 0.524409711 | 6.59635E-07 | 4.52236E-06 | 0.071488258 | 0 | 17 | 0 | 0 | 4.52236E-06 |
| Terbium (Tb) | — | 0.203980498 | 0.770443139 | 2 | 1.540886278 | 1.93822E-06 | 1.93822E-06 | 0.20684525 | 0.601013662 | 12 | 7.212163941 | 9.0719E-06 | 1.10101E-05 | 0.203766679 | 0.747376063 | 2 | 1.494752125 | 1.88019E-06 | 1.28903E-05 | 0.203766679 | 0 | 17 | 0 | 0 | 1.28903E-05 |
| Thorium (Th) | — | 3.759488301 | 14.19974947 | 2 | 28.39949895 | 3.57226E-05 | 3.57226E-05 | 5.894757696 | 17.12792486 | 12 | 205.5350983 | 0.000258535 | 0.000294257 | 3.755547491 | 13.77460881 | 2 | 27.54921762 | 3.46531E-05 | 0.00032891 | 3.755547491 | 0 | 17 | 0 | 0 | 0.00032891 |
| Tungsten (W) | — | 0.491537477 | 1.856558251 | 2 | 3.713116502 | 4.67059E-06 | 4.67059E-06 | 4.222143723 | 12.26794453 | 12 | 147.2153344 | 0.000185177 | 0.000189847 | 0.491022232 | 1.800972876 | 2 | 3.601945752 | 4.53075E-06 | 0.000194378 | 0.491022232 | 0 | 17 | 0 | 0 | 0.000194378 |
| Ytterbium (Yb) | — | 0.251622619 | 0.950389486 | 2 | 1.900778972 | 2.39092E-06 | 2.39092E-06 | 0.255156469 | 0.741387698 | 12 | 8.896652373 | 1.11908E-05 | 1.35817E-05 | 0.251358861 | 0.921934814 | 2 | 1.843869628 | 2.31933E-06 | 1.5901E-05 | 0.251358861 | 0 | 17 | 0 | 0 | 1.5901E-05 |
| Yttrium (Y) | — | 2.965855347 | 11.20216357 | 2 | 22.40432714 | 2.81815E-05 | 2.81815E-05 | 3.622320095 | 10.5250851 | 12 | 126.3010213 | 0.000158869 | 0.000187051 | 2.962746447 | 10.86677067 | 2 | 21.73354133 | 2.73378E-05 | 0.000214389 | 2.962746447 | 0 | 17 | 0 | 0 | 0.000214389 |
| Zirconium (Zr) | — | 14.18644437 | 53.58281228 | 2 | 107.1656246 | 0.0001348 | 0.0001348 | 14.3856823 | 41.79932378 | 12 | 501.5918854 | 0.000630933 | 0.000765733 | 14.1715737 | 51.97854227 | 2 | 103.9570845 | 0.000130764 | 0.000896496 | 14.1715737 | 0 | 17 | 0 | 0 | 0.000896496 |

Table I-16: Measured Concentrations (mg/L) of Chemical Parameters in Water- 95th Percent Upper Confident Limit of the Mean

| | Blackwater Creek | Hughes Creek | Little Creek | McHughes Creek | Thunder Lake Tributary 2/3 | Thunder lake Tributary 3 (1 station) | Hoffstrom's Bay Tributary | Wabigoon Lake | Thunder Lake |
|---|---|---|---|---|---|---|---|---|---|
| | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| **Aluminum** | 0.53999 | 0.24412 | 0.62239 | 0.36940 | 0.20340 | 0.16295 | 0.23127 | 0.51157 | 0.15078 |
| **Ammonia (un-ionized)** | 0.00513 | 0.00128 | 0.00105 | 0.00204 | 0.00249 | 0.00505 | 0.00142 | 0.00206 | 0.00081 |
| **Ammonia (total)** | 0.13498 | 0.03369 | 0.02772 | 0.05381 | 0.06557 | 0.13285 | 0.03745 | 0.05420 | 0.02129 |
| **Antimony** | 0.00156 | 0.00163 | 0.00175 | 0.00130 | 0.00179 | 0.00209 | 0.00167 | 0.00143 | 0.00206 |
| **Arsenic** | 0.00194 | 0.00190 | 0.00201 | 0.00101 | 0.00230 | 0.00270 | 0.00137 | 0.00100 | 0.00102 |
| **Beryllium** | 0.00179 | 0.00184 | 0.00194 | 0.00101 | 0.00215 | 0.00256 | 0.00118 | 0.00102 | 0.00097 |
| **Boron** | 0.08542 | 0.08831 | 0.09289 | 0.05105 | 0.10013 | 0.12129 | 0.05109 | 0.05125 | 0.04799 |
| **Cadmium** | 0.00008 | 0.00008 | 0.00008 | 0.00007 | 0.00005 | 0.00006 | 0.00004 | 0.00008 | 0.00005 |
| **Chloride** | 1.53440 | 0.85555 | 1.70533 | 19.97698 | 0.50862 | 0.59716 | 0.72769 | 6.16121 | 4.39439 |
| **Chromium** | 0.00224 | 0.00196 | 0.00221 | 0.00138 | 0.00230 | 0.00262 | 0.00135 | 0.00113 | 0.00095 |
| **Cobalt** | 0.00172 | 0.00094 | 0.00113 | 0.00060 | 0.00108 | 0.00125 | 0.00052 | 0.00083 | 0.00051 |
| **Copper** | 0.00246 | 0.00205 | 0.00265 | 0.00152 | 0.00229 | 0.00270 | 0.00135 | 0.00201 | 0.00160 |
| **Cyanide** | 0.00238 | 0.00244 | 0.00242 | 0.00240 | 0.00256 | 0.00303 | 0.00362 | 0.00219 | 0.00316 |
| **Iron** | 2.45395 | 0.69778 | 1.77004 | 0.64308 | 1.39695 | 1.08717 | 0.53956 | 1.15951 | 0.15139 |
| **Lead** | 0.00179 | 0.00179 | 0.00189 | 0.00104 | 0.00206 | 0.00248 | 0.00105 | 0.00102 | 0.00097 |
| **Mercury** | 0.00007 | 0.00008 | 0.00008 | 0.00008 | 0.00004 | 0.00004 | 0.00005 | 0.00008 | 0.00003 |
| **Molybdenum** | 0.00178 | 0.00184 | 0.00193 | 0.00102 | 0.00213 | 0.00254 | 0.00118 | 0.00102 | 0.00097 |
| **Nickel** | 0.00371 | 0.00367 | 0.00392 | 0.00214 | 0.00421 | 0.00502 | 0.00219 | 0.00204 | 0.00195 |
| **Nitrate** | 0.08147 | 0.06344 | 0.05558 | 0.06823 | 0.16245 | 0.15795 | 0.13360 | 0.06724 | 0.11815 |
| **Phosphorus** | 0.04441 | 0.01707 | 0.06060 | 0.01843 | 0.02606 | 0.03243 | 0.02816 | 0.03771 | 0.01638 |
| **Selenium** | 0.02893 | 0.00391 | 0.00421 | 0.00356 | 0.00224 | 0.00266 | 0.00152 | 0.00396 | 0.00087 |
| **Silver** | 0.00019 | 0.00018 | 0.00019 | 0.00010 | 0.00021 | 0.00025 | 0.00010 | 0.00010 | 0.00010 |
| **Sulphate** | 2.13859 | 2.27962 | 1.86052 | 3.82439 | 3.19657 | 3.54855 | 2.14266 | 2.17631 | 3.23626 |
| **Thallium** | 0.00053 | 0.00054 | 0.00057 | 0.00031 | 0.00063 | 0.00075 | 0.00031 | 0.00030 | 0.00031 |
| **Uranium** | 0.00851 | 0.00881 | 0.00926 | 0.00513 | 0.00996 | 0.01209 | 0.00513 | 0.00512 | 0.00478 |
| **Vanadium** | 0.00240 | 0.00194 | 0.00250 | 0.00138 | 0.00251 | 0.00268 | 0.00120 | 0.00129 | 0.00104 |
| **Zinc** | 0.00788 | 0.00631 | 0.00935 | 0.00587 | 0.01468 | 0.00794 | 0.00620 | 0.00791 | 0.00376 |

**I-17: Modelled Metal Concentrations (mg/L) in Water (Base Case Assessment Scenario, Wet Cover Option)- 95th Percent Upper Confident Limit of the Mean**

| Parameter | Criteria (HC, PWQO or CWQG) | BW1: Blackwater Creek (downstream of Project) | | | BW2: Blackwater Creek (discharge to Wabigoon Lake) | | | HB1: Hoffstrom's Bay Tributary (at Thunder Lake) | | | TL1: Thunder Lake Tributary #2 (downstream of resevoir) | | | TL2: Thunder Lake Tributary #3 (downstream of Tree Nursery Ponds) | | | TL3: Thunder Lake Tributary #2 (at Thunder Lake) | | | LC1: Little Creek (at Thunder Lake) | | | Thunder Lake: Thunder Lake | | | Wabigoon Lake: Wabigoon Lake | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| **Aluminum** | 0.07500 | **0.53999** | **0.53999** | **0.53999** | **0.53999** | **0.53999** | **0.53999** | **0.23127** | **0.23127** | **0.23127** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.62239** | **0.62239** | **0.62239** | **0.15952** | **0.16047** | **0.15856** | **0.50153** | **0.50172** | **0.50134** |
| **Ammonia (un-ionized)** | 0.02000 | 0.00513 | 0.00513 | 0.00513 | 0.00513 | 0.00513 | 0.00513 | 0.00142 | 0.00142 | 0.00142 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00105 | 0.00105 | 0.00105 | 0.00104 | 0.00103 | 0.00104 | 0.00205 | 0.00207 | 0.00204 |
| **Ammonia (total)** | — | 0.13498 | 0.13498 | 0.13498 | 0.13498 | 0.13498 | 0.13498 | 0.03745 | 0.03745 | 0.03745 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.02772 | 0.02772 | 0.02772 | 0.02725 | 0.02705 | 0.02745 | 0.05406 | 0.05452 | 0.05360 |
| **Antimony** | 0.02000 | 0.00156 | 0.00156 | 0.00156 | 0.00156 | 0.00156 | 0.00156 | 0.00167 | 0.00167 | 0.00167 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00175 | 0.00175 | 0.00175 | 0.00202 | 0.00202 | 0.00202 | 0.00145 | 0.00145 | 0.00145 |
| **Arsenic** | 0.10000 | 0.00194 | 0.00194 | 0.00194 | 0.00194 | 0.00194 | 0.00194 | 0.00137 | 0.00137 | 0.00137 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00201 | 0.00201 | 0.00201 | 0.00119 | 0.00119 | 0.00119 | 0.00101 | 0.00102 | 0.00101 |
| **Beryllium** | 0.01100 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00118 | 0.00118 | 0.00118 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00194 | 0.00194 | 0.00194 | 0.00113 | 0.00113 | 0.00114 | 0.00103 | 0.00103 | 0.00102 |
| **Boron** | 0.20000 | 0.08542 | 0.08542 | 0.08542 | 0.08542 | 0.08542 | 0.08542 | 0.05109 | 0.05109 | 0.05109 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.09289 | 0.09289 | 0.09289 | 0.05501 | 0.05478 | 0.05525 | 0.05163 | 0.05182 | 0.05144 |
| **Cadmium** | 0.00020 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00004 | 0.00004 | 0.00004 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 | 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 |
| **Chloride** | 120.00000 | 1.53440 | 1.53440 | 1.53440 | 1.53440 | 1.53440 | 1.53440 | 0.72769 | 0.72769 | 0.72769 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 1.70533 | 1.70533 | 1.70533 | 3.85178 | 3.85513 | 3.84843 | 6.05677 | 6.03022 | 6.08332 |
| **Chromium** | 0.00890 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00135 | 0.00135 | 0.00135 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00221 | 0.00221 | 0.00221 | 0.00113 | 0.00113 | 0.00114 | 0.00114 | 0.00115 | 0.00113 |
| **Cobalt** | 0.00090 | **0.00172** | **0.00172** | **0.00172** | **0.00172** | **0.00172** | **0.00172** | 0.00052 | 0.00052 | 0.00052 | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00113** | **0.00113** | **0.00113** | 0.00059 | 0.00058 | 0.00059 | 0.00083 | 0.00084 | 0.00083 |
| **Copper** | 0.00500 | 0.00246 | 0.00246 | 0.00246 | 0.00246 | 0.00246 | 0.00246 | 0.00135 | 0.00135 | 0.00135 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00265 | 0.00265 | 0.00265 | 0.00169 | 0.00169 | 0.00169 | 0.00200 | 0.00200 | 0.00200 |
| **Cyanide** | 0.00500 | 0.00238 | 0.00238 | 0.00238 | 0.00238 | 0.00238 | 0.00238 | 0.00362 | 0.00362 | 0.00362 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00242 | 0.00242 | 0.00242 | 0.00308 | 0.00309 | 0.00308 | 0.00222 | 0.00222 | 0.00222 |
| **Iron** | 0.30000 | **2.45395** | **2.45395** | **2.45395** | **2.45395** | **2.45395** | **2.45395** | **0.53956** | **0.53956** | **0.53956** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.77004** | **1.77004** | **1.77004** | **0.32253** | **0.31945** | **0.32562** | **1.14544** | **1.15281** | **1.13808** |
| **Lead** | 0.02000 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00105 | 0.00105 | 0.00105 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00189 | 0.00189 | 0.00189 | 0.00112 | 0.00111 | 0.00112 | 0.00102 | 0.00103 | 0.00102 |
| **Mercury** | 0.00020 | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00005 | 0.00005 | 0.00005 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00008 | 0.00008 | 0.00008 | 0.00003 | 0.00003 | 0.00003 | 0.00008 | 0.00008 | 0.00008 |
| **Molybdenum** | 0.04000 | 0.00178 | 0.00178 | 0.00178 | 0.00178 | 0.00178 | 0.00178 | 0.00118 | 0.00118 | 0.00118 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00193 | 0.00193 | 0.00193 | 0.00113 | 0.00112 | 0.00113 | 0.00102 | 0.00103 | 0.00102 |
| **Nickel** | 0.02500 | 0.00371 | 0.00371 | 0.00371 | 0.00371 | 0.00371 | 0.00371 | 0.00219 | 0.00219 | 0.00219 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00392 | 0.00392 | 0.00392 | 0.00225 | 0.00224 | 0.00226 | 0.00206 | 0.00207 | 0.00205 |
| **Nitrate** | 13.00000 | 0.08147 | 0.08147 | 0.08147 | 0.08147 | 0.08147 | 0.08147 | 0.13360 | 0.13360 | 0.13360 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.05558 | 0.05558 | 0.05558 | 0.12391 | 0.12357 | 0.12425 | 0.06900 | 0.06908 | 0.06893 |
| **Phosphorus** | 0.03000 | **0.04441** | **0.04441** | **0.04441** | **0.04441** | **0.04441** | **0.04441** | 0.02816 | 0.02816 | 0.02816 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | **0.06060** | **0.06060** | **0.06060** | 0.01785 | 0.01793 | 0.01777 | **0.03718** | **0.03723** | **0.03714** |
| **Selenium** | 0.10000 | 0.02893 | 0.02893 | 0.02893 | 0.02893 | 0.02893 | 0.02893 | 0.00152 | 0.00152 | 0.00152 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00421 | 0.00421 | 0.00421 | 0.00106 | 0.00106 | 0.00106 | 0.00407 | 0.00422 | 0.00393 |
| **Silver** | 0.00010 | **0.00019** | **0.00019** | **0.00019** | **0.00019** | **0.00019** | **0.00019** | **0.00010** | **0.00010** | **0.00010** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00019** | **0.00019** | **0.00019** | **0.00012** | **0.00012** | **0.00012** | **0.00010** | **0.00010** | **0.00010** |
| **Sulphate** | 500.00000 | 2.13859 | 2.13859 | 2.13859 | 2.13859 | 2.13859 | 2.13859 | 2.14266 | 2.14266 | 2.14266 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 1.86052 | 1.86052 | 1.86052 | 3.22046 | 3.21311 | 3.22780 | 2.20648 | 2.20605 | 2.20691 |
| **Thallium** | 0.00030 | **0.00053** | **0.00053** | **0.00053** | **0.00053** | **0.00053** | **0.00053** | **0.00031** | **0.00031** | **0.00031** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00057** | **0.00057** | **0.00057** | **0.00035** | **0.00035** | **0.00035** | **0.00030** | **0.00030** | **0.00030** |
| **Uranium** | 0.00500 | **0.00851** | **0.00851** | **0.00851** | **0.00851** | **0.00851** | **0.00851** | **0.00513** | **0.00513** | **0.00513** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00926** | **0.00926** | **0.00926** | **0.00548** | **0.00546** | **0.00550** | **0.00516** | **0.00518** | **0.00514** |
| **Vanadium** | 0.00600 | 0.00240 | 0.00240 | 0.00240 | 0.00240 | 0.00240 | 0.00240 | 0.00120 | 0.00120 | 0.00120 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00250 | 0.00250 | 0.00250 | 0.00124 | 0.00124 | 0.00125 | 0.00130 | 0.00131 | 0.00129 |
| **Zinc** | 0.03000 | 0.00788 | 0.00788 | 0.00788 | 0.00788 | 0.00788 | 0.00788 | 0.00620 | 0.00620 | 0.00620 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.00935 | 0.00935 | 0.00935 | 0.00523 | 0.00518 | 0.00528 | 0.00783 | 0.00783 | 0.00784 |

**Table I-18: Modelled Metal Concentrations (mg/L) in Water (Project Alone Assessment Scenario, Operations, Wet Cover Option)- 95th Percent Upper Confident Limit of the Mean**

| Parameter | Criteria (HC, PWQO or CWQG) | BW1: Blackwater Creek (downstream of Project) | | | BW2: Blackwater Creek (discharge to Wabigoon Lake) | | | HB1: Hoffstrom's Bay Tributary (at Thunder Lake) | | | TL1: Thunder Lake Tributary #2 (downstream of resevoir) | | | TL2: Thunder Lake Tributary #3 (downstream of Tree Nursery Ponds) | | | TL3: Thunder Lake Tributary #2 (at Thunder Lake) | | | LC1: Little Creek (at Thunder Lake) | | | Thunder Lake: Thunder Lake | | | Wabigoon Lake: Wabigoon Lake | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| Aluminum | 0.07500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ammonia (un-ionized) | 0.02000 | 0.00626 | 0.00631 | 0.00605 | 0.00585 | 0.00589 | 0.00571 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ammonia (total) | — | 0.16472 | 0.16599 | 0.15922 | 0.15405 | 0.15487 | 0.15037 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony | 0.02000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | 0.10000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Beryllium | 0.01100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Boron | 0.20000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium | 0.00020 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chloride | 120.00000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chromium | 0.00890 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | 0.00090 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper | 0.00500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide | 0.00500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Iron | 0.30000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead | 0.02000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury | 0.00020 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum | 0.04000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nickel | 0.02500 | 0.00580 | 0.00589 | 0.00541 | 0.00505 | 0.00511 | 0.00479 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nitrate | 13.00000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Phosphorus | 0.03000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Selenium | 0.10000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | 0.00010 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sulphate | 500.00000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium | 0.00030 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | 0.00500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vanadium | 0.00600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | 0.03000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**Table I-19: Modelled Metal Concentrations (mg/L) in Water (Project Assessment Scenario, Operations, Wet Cover Option)- 95th Percent Upper Confident Limit of the Mean**

| Parameter | Criteria (HC, PWQO or CWQG) | BW1: Blackwater Creek (downstream of Project) | | | BW2: Blackwater Creek (discharge to Wabigoon Lake) | | | HB1: Hoffstrom's Bay Tributary (at Thunder Lake) | | | TL1: Thunder Lake Tributary #2 (downstream of resevoir) | | | TL2: Thunder Lake Tributary #3 (downstream of Tree Nursery Ponds) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| Aluminum | 0.07500 | **0.46446** | **0.46123** | **0.47837** | **0.49154** | **0.48947** | **0.50088** | **0.23127** | **0.23127** | **0.23127** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** |
| Ammonia (un-ionized) | 0.02000 | 0.00626 | 0.00631 | 0.00605 | 0.00585 | 0.00589 | 0.00571 | 0.00142 | 0.00142 | 0.00142 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 |
| Ammonia (total) | — | 0.16472 | 0.16599 | 0.15922 | 0.15405 | 0.15487 | 0.15037 | 0.03745 | 0.03745 | 0.03745 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 |
| Antimony | 0.02000 | 0.00122 | 0.00120 | 0.00128 | 0.00134 | 0.00133 | 0.00138 | 0.00167 | 0.00167 | 0.00167 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 |
| Arsenic | 0.10000 | 0.00154 | 0.00152 | 0.00161 | 0.00168 | 0.00167 | 0.00173 | 0.00137 | 0.00137 | 0.00137 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 |
| Beryllium | 0.01100 | 0.00140 | 0.00138 | 0.00147 | 0.00154 | 0.00153 | 0.00159 | 0.00118 | 0.00118 | 0.00118 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 |
| Boron | 0.20000 | 0.06682 | 0.06602 | 0.07025 | 0.07349 | 0.07298 | 0.07579 | 0.05109 | 0.05109 | 0.05109 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 |
| Cadmium | 0.00020 | 0.00006 | 0.00006 | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00004 | 0.00004 | 0.00004 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 |
| Chloride | 120.00000 | 1.22710 | 1.21375 | 1.28505 | 1.33727 | 1.32874 | 1.37613 | 0.72769 | 0.72769 | 0.72769 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 | 0.50862 |
| Chromium | 0.00890 | 0.00175 | 0.00173 | 0.00184 | 0.00192 | 0.00191 | 0.00198 | 0.00135 | 0.00135 | 0.00135 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 |
| Cobalt | 0.00090 | **0.00138** | **0.00136** | **0.00144** | **0.00150** | **0.00149** | **0.00154** | 0.00052 | 0.00052 | 0.00052 | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** |
| Copper | 0.00500 | 0.00206 | 0.00204 | 0.00213 | 0.00220 | 0.00219 | 0.00225 | 0.00135 | 0.00135 | 0.00135 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 |
| Cyanide | 0.00500 | 0.00202 | 0.00200 | 0.00209 | 0.00215 | 0.00214 | 0.00220 | 0.00362 | 0.00362 | 0.00362 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 |
| Iron | 0.30000 | **2.04877** | **2.03145** | **2.12342** | **2.19403** | **2.18296** | **2.24415** | **0.53956** | **0.53956** | **0.53956** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** | **1.39695** |
| Lead | 0.02000 | 0.00151 | 0.00150 | 0.00156 | 0.00161 | 0.00160 | 0.00165 | 0.00105 | 0.00105 | 0.00105 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 |
| Mercury | 0.00020 | 0.00005 | 0.00005 | 0.00005 | 0.00006 | 0.00006 | 0.00006 | 0.00005 | 0.00005 | 0.00005 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 |
| Molybdenum | 0.04000 | 0.00139 | 0.00137 | 0.00146 | 0.00153 | 0.00152 | 0.00158 | 0.00118 | 0.00118 | 0.00118 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 |
| Nickel | 0.02500 | 0.00580 | 0.00589 | 0.00541 | 0.00505 | 0.00511 | 0.00479 | 0.00219 | 0.00219 | 0.00219 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 |
| Nitrate | 13.00000 | 0.06483 | 0.06412 | 0.06790 | 0.07080 | 0.07034 | 0.07286 | 0.13360 | 0.13360 | 0.13360 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 |
| Phosphorus | 0.03000 | **0.03471** | **0.03430** | **0.03651** | **0.03819** | **0.03793** | **0.03940** | 0.02816 | 0.02816 | 0.02816 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 |
| Selenium | 0.10000 | 0.02256 | 0.02229 | 0.02374 | 0.02484 | 0.02467 | 0.02563 | 0.00152 | 0.00152 | 0.00152 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 |
| Silver | 0.00010 | **0.00015** | **0.00015** | **0.00016** | **0.00016** | **0.00016** | **0.00017** | **0.00010** | **0.00010** | **0.00010** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** |
| Sulphate | 500.00000 | 1.72058 | 1.70241 | 1.79943 | 1.87044 | 1.85883 | 1.92331 | 2.14266 | 2.14266 | 2.14266 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 | 3.19657 |
| Thallium | 0.00030 | **0.00042** | **0.00042** | **0.00044** | **0.00046** | **0.00046** | **0.00047** | **0.00031** | **0.00031** | **0.00031** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** |
| Uranium | 0.00500 | **0.00671** | **0.00663** | **0.00704** | **0.00735** | **0.00730** | **0.00758** | **0.00513** | **0.00513** | **0.00513** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** |
| Vanadium | 0.00600 | 0.00188 | 0.00186 | 0.00197 | 0.00207 | 0.00205 | 0.00213 | 0.00120 | 0.00120 | 0.00120 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 |
| Zinc | 0.03000 | 0.00787 | 0.00787 | 0.00787 | 0.00787 | 0.00787 | 0.00787 | 0.00620 | 0.00620 | 0.00620 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 |

| TL3: Thunder Lake Tributary #2 (at Thunder Lake) | | | LC1: Little Creek (at Thunder Lake) | | | Thunder Lake: Thunder Lake | | | Wabigoon Lake: Wabigoon Lake | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| **0.20340** | **0.20340** | **0.20340** | **0.62239** | **0.62239** | **0.62239** | **0.15934** | **0.16021** | **0.15847** | **0.50125** | **0.50113** | **0.50135** |
| 0.00249 | 0.00249 | 0.00249 | 0.00105 | 0.00105 | 0.00105 | 0.00103 | 0.00103 | 0.00104 | 0.00206 | 0.00208 | 0.00204 |
| 0.06557 | 0.06557 | 0.06557 | 0.02772 | 0.02772 | 0.02772 | 0.02722 | 0.02703 | 0.02740 | 0.05418 | 0.05475 | 0.05363 |
| 0.00179 | 0.00179 | 0.00179 | 0.00175 | 0.00175 | 0.00175 | 0.00202 | 0.00202 | 0.00202 | 0.00145 | 0.00145 | 0.00145 |
| 0.00230 | 0.00230 | 0.00230 | 0.00201 | 0.00201 | 0.00201 | 0.00119 | 0.00118 | 0.00119 | 0.00101 | 0.00101 | 0.00101 |
| 0.00215 | 0.00215 | 0.00215 | 0.00194 | 0.00194 | 0.00194 | 0.00113 | 0.00113 | 0.00114 | 0.00102 | 0.00103 | 0.00102 |
| 0.10013 | 0.10013 | 0.10013 | 0.09289 | 0.09289 | 0.09289 | 0.05497 | 0.05476 | 0.05519 | 0.05152 | 0.05164 | 0.05141 |
| 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 | 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 |
| 0.50862 | 0.50862 | 0.50862 | 1.70533 | 1.70533 | 1.70533 | 3.85612 | 3.85919 | 3.85305 | 6.05813 | 6.03044 | 6.08456 |
| 0.00230 | 0.00230 | 0.00230 | 0.00221 | 0.00221 | 0.00221 | 0.00113 | 0.00113 | 0.00113 | 0.00114 | 0.00114 | 0.00113 |
| **0.00108** | **0.00108** | **0.00108** | **0.00113** | **0.00113** | **0.00113** | 0.00059 | 0.00058 | 0.00059 | 0.00083 | 0.00083 | 0.00083 |
| 0.00229 | 0.00229 | 0.00229 | 0.00265 | 0.00265 | 0.00265 | 0.00169 | 0.00169 | 0.00169 | 0.00200 | 0.00200 | 0.00200 |
| 0.00256 | 0.00256 | 0.00256 | 0.00242 | 0.00242 | 0.00242 | 0.00308 | 0.00309 | 0.00308 | 0.00222 | 0.00222 | 0.00222 |
| **1.39695** | **1.39695** | **1.39695** | **1.77004** | **1.77004** | **1.77004** | **0.32133** | **0.31848** | **0.32419** | **1.14312** | **1.14882** | **1.13763** |
| 0.00206 | 0.00206 | 0.00206 | 0.00189 | 0.00189 | 0.00189 | 0.00112 | 0.00111 | 0.00112 | 0.00102 | 0.00103 | 0.00102 |
| 0.00004 | 0.00004 | 0.00004 | 0.00008 | 0.00008 | 0.00008 | 0.00003 | 0.00003 | 0.00003 | 0.00008 | 0.00008 | 0.00008 |
| 0.00213 | 0.00213 | 0.00213 | 0.00193 | 0.00193 | 0.00193 | 0.00113 | 0.00112 | 0.00113 | 0.00102 | 0.00103 | 0.00102 |
| 0.00421 | 0.00421 | 0.00421 | 0.00392 | 0.00392 | 0.00392 | 0.00225 | 0.00224 | 0.00226 | 0.00207 | 0.00208 | 0.00205 |
| 0.16245 | 0.16245 | 0.16245 | 0.05558 | 0.05558 | 0.05558 | 0.12390 | 0.12359 | 0.12421 | 0.06890 | 0.06891 | 0.06889 |
| 0.02606 | 0.02606 | 0.02606 | **0.06060** | **0.06060** | **0.06060** | 0.01783 | 0.01790 | 0.01776 | **0.03714** | **0.03714** | **0.03714** |
| 0.00224 | 0.00224 | 0.00224 | 0.00421 | 0.00421 | 0.00421 | 0.00106 | 0.00106 | 0.00106 | 0.00403 | 0.00415 | 0.00392 |
| **0.00021** | **0.00021** | **0.00021** | **0.00019** | **0.00019** | **0.00019** | **0.00012** | **0.00012** | **0.00012** | **0.00010** | **0.00010** | **0.00010** |
| 3.19657 | 3.19657 | 3.19657 | 1.86052 | 1.86052 | 1.86052 | 3.22132 | 3.21456 | 3.22808 | 2.20419 | 2.20209 | 2.20617 |
| **0.00063** | **0.00063** | **0.00063** | **0.00057** | **0.00057** | **0.00057** | **0.00035** | **0.00035** | **0.00035** | **0.00030** | **0.00030** | **0.00030** |
| **0.00996** | **0.00996** | **0.00996** | **0.00926** | **0.00926** | **0.00926** | **0.00548** | **0.00545** | **0.00550** | **0.00515** | **0.00516** | **0.00514** |
| 0.00251 | 0.00251 | 0.00251 | 0.00250 | 0.00250 | 0.00250 | 0.00124 | 0.00124 | 0.00125 | 0.00130 | 0.00130 | 0.00129 |
| 0.01468 | 0.01468 | 0.01468 | 0.00935 | 0.00935 | 0.00935 | 0.00522 | 0.00518 | 0.00526 | 0.00783 | 0.00783 | 0.00784 |

**Table I-20 Modelled Metal Concentrations (mg/L) in Water (Project Alone Assessment Scenario, Post-Closure, Wet Cover Option)- 95th Percent Upper Confident Limit of the Mean**

| Parameter | Criteria (PWQO or CWQG) | BW1: Blackwater Creek (downstream of Project) | | | BW2: Blackwater Creek (discharge to Wabigoon Lake) | | | HB1: Hoffstrom's Bay Tributary (at Thunder Lake) | | | TL1: Thunder Lake Tributary #2 (downstream of resevoir) | | | TL2: Thunder Lake Tributary #3 (downstream of Tree Nursery Ponds) | | | TL3: Thunder Lake Tributary #2 (at Thunder Lake) | | | LC1: Little Creek (at Thunder Lake) | | | Thunder Lake: Thunder Lake | | | Wabigoon Lake: Wabigoon Lake | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| **Aluminum** | 0.07500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Ammonia (un-ionized)** | 0.02000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Ammonia (total)** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Antimony** | 0.02000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Arsenic** | 0.10000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Beryllium** | 0.01100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Boron** | 0.20000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Cadmium** | 0.00020 | 0.00008 | 0.00008 | 0.00008 | — | — | 0.00008 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Chloride** | 120.00000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Chromium** | 0.00890 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Cobalt** | 0.00090 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Copper** | 0.00500 | 0.00282 | 0.00287 | 0.00296 | 0.00269 | 0.00273 | 0.00279 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Cyanide** | 0.00500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Iron** | 0.30000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Lead** | 0.02000 | 0.00207 | 0.00211 | 0.00218 | 0.00197 | 0.00200 | 0.00205 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Mercury** | 0.00020 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Molybdenum** | 0.04000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Nickel** | 0.02500 | 0.00916 | 0.00987 | 0.01117 | 0.00721 | 0.00774 | 0.00872 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00244 | 0.00244 | 0.00245 | — | — | — |
| **Nitrate** | 13.00000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Phosphorus** | 0.03000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Selenium** | 0.10000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Silver** | 0.00010 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Sulphate** | 500.00000 | 6.70953 | 7.30578 | 8.40211 | 5.07965 | 5.52173 | 6.34362 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.42416 | 3.41734 | 3.43097 | — | — | — |
| **Thallium** | 0.00030 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Uranium** | 0.00500 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Vanadium** | 0.00600 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Zinc** | 0.03000 | 0.01353 | 0.01427 | 0.01562 | 0.01152 | 0.01207 | 0.01308 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**Table I-21 Modelled Metal Concentrations (mg/L) in Water (Project Assessment Scenario, Post-Closure, Wet Cover Option)- 95th Percent Upper Confident Limit of the Mean**

| Parameter | Criteria (PWQO or CWQG) | BW1: Blackwater Creek (downstream of Project) | | | BW2: Blackwater Creek (discharge to Wabigoon Lake) | | | HB1: Hoffstrom's Bay Tributary (at Thunder Lake) | | | TL1: Thunder Lake Tributary #2 (downstream of resevoir) | | | TL2: Thunder Lake Tributary #3 (downstream of Tree Nursery Ponds) | | | TL3: Thunder Lake Tributary #2 (at Thunder Lake) | | | LC1: Little Creek (at Thunder Lake) | | | Thunder Lake: Thunder Lake | | | Wabigoon Lake: Wabigoon Lake | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry | Average | Wet | Dry |
| **Aluminum** | 0.07500 | **0.47178** | **0.46289** | **0.44651** | **0.49610** | **0.48951** | **0.47723** | **0.23125** | **0.23126** | **0.23122** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20340** | **0.20339** | **0.20340** | **0.20340** | **0.20339** | **0.62239** | **0.62239** | **0.62239** | **0.16221** | **0.16309** | **0.16133** | **0.50130** | **0.50113** | **0.50131** |
| **Ammonia (un-ionized)** | 0.02000 | 0.00475 | 0.00470 | 0.00460 | 0.00488 | 0.00485 | 0.00478 | 0.00142 | 0.00142 | 0.00142 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00249 | 0.00105 | 0.00105 | 0.00105 | 0.00104 | 0.00103 | 0.00104 | 0.00205 | 0.00207 | 0.00204 |
| **Ammonia (total)** | — | 0.12489 | 0.12357 | 0.12114 | 0.12848 | 0.12751 | 0.12568 | 0.03745 | 0.03745 | 0.03745 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.06557 | 0.02772 | 0.02772 | 0.02772 | 0.02724 | 0.02706 | 0.02743 | 0.05403 | 0.05449 | 0.05360 |
| **Antimony** | 0.02000 | 0.00145 | 0.00143 | 0.00141 | 0.00149 | 0.00148 | 0.00146 | 0.00167 | 0.00167 | 0.00167 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00179 | 0.00175 | 0.00175 | 0.00175 | 0.00202 | 0.00202 | 0.00202 | 0.00145 | 0.00145 | 0.00145 |
| **Arsenic** | 0.10000 | 0.00181 | 0.00179 | 0.00176 | 0.00185 | 0.00184 | 0.00182 | 0.00137 | 0.00137 | 0.00137 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00201 | 0.00201 | 0.00201 | 0.00119 | 0.00119 | 0.00120 | 0.00101 | 0.00102 | 0.00101 |
| **Beryllium** | 0.01100 | 0.00160 | 0.00157 | 0.00153 | 0.00167 | 0.00165 | 0.00161 | 0.00118 | 0.00118 | 0.00118 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00215 | 0.00194 | 0.00194 | 0.00194 | 0.00113 | 0.00113 | 0.00114 | 0.00102 | 0.00103 | 0.00102 |
| **Boron** | 0.20000 | 0.07674 | 0.07561 | 0.07355 | 0.07984 | 0.07900 | 0.07745 | 0.05109 | 0.05109 | 0.05110 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.10013 | 0.09289 | 0.09289 | 0.09289 | 0.05501 | 0.05479 | 0.05522 | 0.05159 | 0.05176 | 0.05143 |
| **Cadmium** | 0.00020 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00008 | 0.00004 | 0.00004 | 0.00004 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 | 0.00005 | 0.00005 | 0.00005 | 0.00008 | 0.00008 | 0.00008 |
| **Chloride** | 120.00000 | 1.54766 | 1.54829 | 1.55596 | 1.54311 | 1.54359 | 1.54945 | 0.72896 | 0.72843 | 0.73222 | 0.50862 | 0.50862 | 0.50862 | 0.50906 | 0.50888 | 0.51019 | 0.50881 | 0.50873 | 0.50928 | 1.70533 | 1.70533 | 1.70533 | 3.85368 | 3.85679 | 3.85058 | 6.05588 | 6.02626 | 6.08245 |
| **Chromium** | 0.00890 | 0.00191 | 0.00187 | 0.00179 | 0.00203 | 0.00200 | 0.00194 | 0.00135 | 0.00135 | 0.00135 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00230 | 0.00221 | 0.00221 | 0.00221 | 0.00113 | 0.00113 | 0.00114 | 0.00114 | 0.00114 | 0.00113 |
| **Cobalt** | 0.00090 | **0.00151** | **0.00148** | **0.00143** | **0.00158** | **0.00156** | **0.00153** | 0.00052 | 0.00052 | 0.00052 | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00108** | **0.00113** | **0.00113** | **0.00113** | 0.00061 | 0.00061 | 0.00061 | 0.00083 | 0.00084 | 0.00083 |
| **Copper** | 0.00500 | 0.00282 | 0.00287 | 0.00296 | 0.00269 | 0.00273 | 0.00279 | 0.00135 | 0.00135 | 0.00135 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00229 | 0.00265 | 0.00265 | 0.00265 | 0.00170 | 0.00170 | 0.00170 | 0.00200 | 0.00201 | 0.00200 |
| **Cyanide** | 0.00500 | 0.00230 | 0.00229 | 0.00227 | 0.00233 | 0.00232 | 0.00231 | 0.00362 | 0.00362 | 0.00362 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00256 | 0.00242 | 0.00242 | 0.00242 | 0.00308 | 0.00309 | 0.00308 | 0.00222 | 0.00222 | 0.00222 |
| **Iron** | 0.30000 | **2.20849** | **2.17650** | **2.11750** | **2.29601** | **2.27229** | **2.22805** | **0.53955** | **0.53956** | **0.53951** | **1.39695** | **1.39695** | **1.39695** | **1.39693** | **1.39694** | **1.39687** | **1.39694** | **1.39694** | **1.39692** | **1.77004** | **1.77004** | **1.77004** | **0.33090** | **0.32804** | **0.33377** | **1.14486** | **1.15174** | **1.13822** |
| **Lead** | 0.02000 | 0.00207 | 0.00211 | 0.00218 | 0.00197 | 0.00200 | 0.00205 | 0.00105 | 0.00105 | 0.00105 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00206 | 0.00189 | 0.00189 | 0.00189 | 0.00113 | 0.00112 | 0.00113 | 0.00103 | 0.00103 | 0.00102 |
| **Mercury** | 0.00020 | 0.00005 | 0.00005 | 0.00005 | 0.00006 | 0.00006 | 0.00006 | 0.00005 | 0.00005 | 0.00005 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00008 | 0.00008 | 0.00008 | 0.00003 | 0.00003 | 0.00003 | 0.00008 | 0.00008 | 0.00008 |
| **Molybdenum** | 0.04000 | 0.00158 | 0.00156 | 0.00151 | 0.00165 | 0.00163 | 0.00160 | 0.00118 | 0.00118 | 0.00118 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00213 | 0.00193 | 0.00193 | 0.00193 | 0.00113 | 0.00112 | 0.00113 | 0.00102 | 0.00103 | 0.00102 |
| **Nickel** | 0.02500 | 0.00916 | 0.00987 | 0.01117 | 0.00721 | 0.00774 | 0.00872 | 0.00219 | 0.00219 | 0.00219 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00421 | 0.00392 | 0.00392 | 0.00392 | 0.00244 | 0.00244 | 0.00245 | 0.00209 | 0.00213 | 0.00207 |
| **Nitrate** | 13.00000 | 0.07770 | 0.07721 | 0.07631 | 0.07905 | 0.07868 | 0.07801 | 0.13359 | 0.13360 | 0.13359 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16245 | 0.16244 | 0.16245 | 0.16245 | 0.16245 | 0.05558 | 0.05558 | 0.05558 | 0.12392 | 0.12360 | 0.12423 | 0.06898 | 0.06904 | 0.06892 |
| **Phosphorus** | 0.03000 | **0.04083** | **0.04036** | **0.03952** | **0.04211** | **0.04176** | **0.04113** | 0.02816 | 0.02816 | 0.02818 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | 0.02606 | **0.06060** | **0.06060** | **0.06060** | 0.01785 | 0.01792 | 0.01778 | **0.03717** | **0.03720** | **0.03714** |
| **Selenium** | 0.10000 | 0.02177 | 0.02084 | 0.01912 | 0.02432 | 0.02363 | 0.02235 | 0.00152 | 0.00152 | 0.00152 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00224 | 0.00421 | 0.00421 | 0.00421 | 0.00106 | 0.00106 | 0.00106 | 0.00404 | 0.00416 | 0.00392 |
| **Silver** | 0.00010 | **0.00017** | **0.00016** | **0.00016** | **0.00018** | **0.00017** | **0.00017** | **0.00010** | **0.00010** | **0.00010** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00021** | **0.00019** | **0.00019** | **0.00019** | **0.00012** | **0.00012** | **0.00012** | **0.00010** | **0.00010** | **0.00010** |
| **Sulphate** | 500.00000 | 6.70953 | 7.30578 | 8.40211 | 5.07965 | 5.52173 | 6.34362 | 2.14435 | 2.14364 | 2.14867 | 3.19657 | 3.19657 | 3.19657 | 3.19713 | 3.19689 | 3.19856 | 3.19680 | 3.19670 | 3.19740 | 1.86052 | 1.86052 | 1.86052 | 3.42416 | 3.41734 | 3.43097 | 2.23664 | 2.26164 | 2.22328 |
| **Thallium** | 0.00030 | **0.00047** | **0.00046** | **0.00045** | **0.00049** | **0.00048** | **0.00047** | **0.00031** | **0.00031** | **0.00031** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00063** | **0.00057** | **0.00057** | **0.00057** | **0.00035** | **0.00035** | **0.00035** | **0.00030** | **0.00030** | **0.00030** |
| **Uranium** | 0.00500 | **0.00761** | **0.00750** | **0.00728** | **0.00793** | **0.00785** | **0.00769** | **0.00514** | **0.00513** | **0.00514** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00996** | **0.00926** | **0.00926** | **0.00926** | **0.00548** | **0.00546** | **0.00550** | **0.00516** | **0.00517** | **0.00514** |
| **Vanadium** | 0.00600 | 0.00205 | 0.00201 | 0.00192 | 0.00218 | 0.00214 | 0.00208 | 0.00120 | 0.00120 | 0.00120 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00251 | 0.00250 | 0.00250 | 0.00250 | 0.00124 | 0.00124 | 0.00125 | 0.00130 | 0.00130 | 0.00129 |
| **Zinc** | 0.03000 | 0.01353 | 0.01427 | 0.01562 | 0.01152 | 0.01207 | 0.01308 | 0.00620 | 0.00620 | 0.00620 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.01468 | 0.00935 | 0.00935 | 0.00935 | 0.00534 | 0.00529 | 0.00538 | 0.00787 | 0.00790 | 0.00785 |

# Table I-27: Measured Concentrations (µg/g) of Chemical Parameters in Fish

| | UCLM CALCULATION OF FISH SAMPLES: LESS THAN DETECTION LIMITS WERE ASSUMED = TO DETECTION LIMIT | | | | | Sample ID | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 | F16 | F17 | F18 | F19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Date Sampled | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 |
| | | | | | | Time Sampled | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 |
| | | | | | | ALS Sample ID | L1234648-1 | L1234648-2 | L1234648-3 | L1234648-4 | L1234648-5 | L1234648-6 | L1234648-7 | L1234648-8 | L1234648-9 | L1234648-10 | L1234648-11 | L1234648-12 | L1234648-13 | L1234648-14 | L1234648-16 | L1234648-17 | L1234648-18 | L1234648-19 |
| | | | | | | Matrix | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue |
| | All Data | | | | | | | | | | | | | | | | | | | | | | | |
| Chemical Parameter | Mean | Std.dev | Count | TINV | UCL | | | | | | | | | | | | | | | | | | | |
| Al | 2.303333333 | 2.478301608 | 42 | 1.682878002 | 2.946883115 | | 6.59 | 1.23 | 1.63 | 0.68 | 1.11 | 3.26 | 7.94 | 0.97 | 0.84 | 0.77 | 1.34 | 1.65 | 2.46 | 0.5 | 6.44 | 1.84 | 3.68 | 0.54 |
| Sb | 0.00247381 | 0.002611238 | 42 | 1.682878002 | 0.003151879 | | 0.0035 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0023 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0189 |
| As | 0.038633333 | 0.013713953 | 42 | 1.682878002 | 0.042194487 | | 0.0575 | 0.0376 | 0.0601 | 0.0307 | 0.0265 | 0.0322 | 0.0433 | 0.0234 | 0.0544 | 0.0618 | 0.0401 | 0.0387 | 0.0381 | 0.0359 | 0.0485 | 0.061 | 0.0237 | 0.0465 |
| Ba | 0.183615385 | 0.148254514 | 39 | 1.68595446 | 0.223639474 | | 0.378 | 0.444 | 0.079 | 0.247 | 0.255 | 0.284 | 0.503 | 0.489 | 0.221 | 0.282 | 0.498 | 0.35 | 0.326 | 0.251 | 0.071 | 0.028 | 0.064 | 0.019 |
| Be | 0.002 | 1.31681E-18 | 42 | 1.682878002 | 0.002 | | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Bi | 0.002011905 | 7.71517E-05 | 42 | 1.682878002 | 0.002031939 | | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| B | 0.2 | 2.8092E-17 | 42 | 1.682878002 | 0.2 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Cd | 0.002088095 | 0.000404971 | 42 | 1.682878002 | 0.002193255 | | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0024 | 0.0045 | 0.002 | 0.002 |
| Ca | 4779.511905 | 4599.571203 | 42 | 1.682878002 | 5973.899639 | | 4850 | 6450 | 1770 | 6560 | 7880 | 7800 | 9160 | 12500 | 5970 | 6370 | 14000 | 14000 | 9240 | 9820 | 288 | 113 | 163 | 186 |
| Cs | 0.022740476 | 0.017357912 | 42 | 1.682878002 | 0.02724787 | | 0.0114 | 0.0105 | 0.0115 | 0.016 | 0.0127 | 0.0101 | 0.0149 | 0.0132 | 0.0116 | 0.0105 | 0.0106 | 0.0126 | 0.0124 | 0.0105 | 0.0116 | 0.0108 | 0.0142 | 0.0147 |
| Cr | 0.107142857 | 0.087577581 | 42 | 1.682878002 | 0.129884453 | | 0.269 | 0.085 | 0.048 | 0.065 | 0.188 | 0.341 | 0.213 | 0.212 | 0.236 | 0.146 | 0.134 | 0.388 | 0.101 | 0.059 | 0.043 | 0.192 | 0.096 | 0.028 |
| Co | 0.00497381 | 0.003001874 | 42 | 1.682878002 | 0.005753317 | | 0.0075 | 0.004 | 0.004 | 0.004 | 0.0049 | 0.0067 | 0.007 | 0.0041 | 0.004 | 0.004 | 0.004 | 0.0055 | 0.004 | 0.004 | 0.0043 | 0.004 | 0.004 | 0.004 |
| Cu | 0.18552381 | 0.053736139 | 42 | 1.682878002 | 0.199477672 | | 0.274 | 0.167 | 0.162 | 0.189 | 0.195 | 0.242 | 0.212 | 0.236 | 0.196 | 0.192 | 0.197 | 0.25 | 0.161 | 0.178 | 0.154 | 0.112 | 0.147 | 0.161 |
| Ga | 0.004 | 2.63363E-18 | 42 | 1.682878002 | 0.004 | | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Fe | 4.212619048 | 3.38694701 | 42 | 1.682878002 | 5.092120154 | | 14.3 | 2.73 | 3.67 | 1.92 | 3.05 | 5.75 | 8.42 | 2.91 | 2.71 | 2.57 | 2.77 | 4.14 | 4.02 | 1.74 | 7.62 | 3.61 | 5.28 | 1.41 |
| Pb | 0.012328571 | 0.014687049 | 42 | 1.682878002 | 0.016142412 | | 0.0316 | 0.0103 | 0.0057 | 0.0099 | 0.0056 | 0.0106 | 0.0142 | 0.0051 | 0.0064 | 0.0051 | 0.0061 | 0.0093 | 0.0085 | 0.0081 | 0.0221 | 0.006 | 0.0158 | 0.004 |
| Li | 0.020380952 | 0.001780002 | 42 | 1.682878002 | 0.020843172 | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Mg | 395.0714286 | 64.79287557 | 42 | 1.682878002 | 411.8964352 | | 410 | 407 | 323 | 402 | 450 | 434 | 458 | 524 | 400 | 390 | 547 | 533 | 422 | 429 | 364 | 313 | 366 | 346 |
| Mn | 0.569247619 | 0.550735391 | 42 | 1.682878002 | 0.712259123 | | 1.32 | 2.09 | 0.277 | 0.549 | 0.956 | 0.862 | 0.674 | 1.22 | 1.04 | 1.11 | 2.56 | 0.763 | 1.22 | 1.34 | 0.243 | 0.184 | 0.184 | 0.132 |
| Hg | 0.199614286 | 0.097894554 | 42 | 1.682878002 | 0.225034928 | | 0.228 | 0.149 | 0.23 | 0.331 | 0.102 | 0.157 | 0.272 | 0.195 | 0.261 | 0.335 | 0.184 | 0.245 | 0.24 | 0.194 | 0.0865 | 0.473 | 0.117 | 0.176 |
| Me-Hg | 0.199614286 | 0.097894554 | 42 | 1.682878002 | 0.225034928 | | 0.228 | 0.149 | 0.23 | 0.331 | 0.102 | 0.157 | 0.272 | 0.195 | 0.261 | 0.335 | 0.184 | 0.245 | 0.24 | 0.194 | 0.0865 | 0.473 | 0.117 | 0.176 |
| Mo | 0.006288095 | 0.014009756 | 42 | 1.682878002 | 0.009926061 | | 0.0087 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0046 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Ni | 0.066585366 | 0.047550487 | 41 | 1.683851013 | 0.079089876 | | 0.115 | 0.045 | 0.025 | 0.034 | 0.102 | 0.154 | 0.092 | 0.101 | 0.121 | 0.076 | 0.068 | 0.189 | 0.057 | 0.056 | 0.03 | 0.031 | 0.021 | 0.159 |
| Pb | 4563.333333 | 2382.171244 | 42 | 1.682878002 | 5181.920586 | | 4260 | 4920 | 2590 | 5020 | 6170 | 6110 | 6840 | 8190 | 4770 | 4890 | 8960 | 8850 | 6160 | 7170 | 2390 | 2010 | 2220 | 2270 |
| K | 4233.809524 | 501.1885988 | 42 | 1.682878002 | 4363.955028 | | 3830 | 3770 | 3620 | 3880 | 3780 | 3830 | 3850 | 4850 | 3970 | 3620 | 4790 | 4550 | 4330 | 3500 | 4710 | 4590 | 4710 | 4600 |
| Re | 0.002 | 1.31681E-18 | 42 | 1.682878002 | 0.002 | | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Rb | 10.22214286 | 2.119404582 | 42 | 1.682878002 | 10.77249652 | | 7.94 | 7.88 | 8.59 | 9.18 | 9.04 | 7.44 | 9.49 | 8.9 | 9.43 | 7.79 | 8.31 | 8.59 | 8.76 | 7.78 | 10.3 | 6.74 | 10.8 | 11.2 |
| Se | 0.202880952 | 0.042697577 | 42 | 1.682878002 | 0.213968391 | | 0.231 | 0.177 | 0.182 | 0.157 | 0.21 | 0.216 | 0.205 | 0.187 | 0.193 | 0.186 | 0.119 | 0.16 | 0.129 | 0.191 | 0.19 | 0.223 | 0.18 | 0.18 |
| Na | 425.5714286 | 189.7882187 | 42 | 1.682878002 | 474.8544401 | | 514 | 564 | 580 | 515 | 512 | 545 | 596 | 739 | 492 | 526 | 708 | 697 | 684 | 633 | 239 | 234 | 214 | 225 |
| Sr | 1.548642857 | 1.50920709 | 42 | 1.682878002 | 1.940544266 | | 1.68 | 2.16 | 0.58 | 2.02 | 2.4 | 2.53 | 3.07 | 3.51 | 2.02 | 2.05 | 4.2 | 4.22 | 2.88 | 3.12 | 0.109 | 0.019 | 0.042 | 0.039 |
| Te | 0.004 | 2.63363E-18 | 42 | 1.682878002 | 0.004 | | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Tl | 0.004180952 | 0.000734019 | 42 | 1.682878002 | 0.004371558 | | 0.0039 | 0.0037 | 0.00314 | 0.00475 | 0.00472 | 0.00371 | 0.00467 | 0.00391 | 0.00435 | 0.00407 | 0.00461 | 0.00558 | 0.00499 | 0.00426 | 0.00505 | 0.00355 | 0.00533 | 0.0048 |
| Th | 0.002119048 | 0.000495461 | 42 | 1.682878002 | 0.002247706 | | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Sn | 0.007516667 | 0.005164179 | 42 | 1.682878002 | 0.008857668 | | 0.0123 | 0.0053 | 0.0054 | 0.004 | 0.0081 | 0.0057 | 0.0082 | 0.0041 | 0.0051 | 0.004 | 0.004 | 0.0058 | 0.0053 | 0.004 | 0.0114 | 0.0074 | 0.0205 | 0.0124 |
| Ti | 0.15747619 | 0.18812674 | 42 | 1.682878002 | 0.20632776 | | 0.448 | 0.073 | 0.135 | 0.046 | 0.081 | 0.212 | 0.403 | 0.069 | 0.049 | 0.052 | 0.066 | 0.103 | 0.439 | 0.024 | 0.396 | 0.097 | 0.271 | 0.028 |
| U | 0.0004 | 2.19469E-19 | 42 | 1.682878002 | 0.0004 | | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 |
| V | 0.010092857 | 0.011701665 | 42 | 1.682878002 | 0.013131472 | | 0.0294 | 0.0085 | 0.006 | 0.0055 | 0.0083 | 0.0159 | 0.0231 | 0.0094 | 0.0075 | 0.009 | 0.0211 | 0.01 | 0.0133 | 0.0075 | 0.0139 | 0.005 | 0.0083 | 0.004 |
| Y | 0.002321429 | 0.001232197 | 42 | 1.682878002 | 0.002641398 | | 0.0026 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0026 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0023 | 0.002 | 0.002 | 0.002 |
| Zn | 7.77547619 | 4.146186142 | 42 | 1.682878002 | 8.852131742 | | 9.38 | 7.55 | 5.44 | 11.2 | 10.2 | 11.2 | 11.6 | 8.17 | 8.67 | 7.36 | 11 | 12.2 | 10.8 | 8.64 | 4.99 | 2.88 | 3.8 | 3.83 |
| Zr | 0.04 | 2.1069E-17 | 42 | 1.682878002 | 0.04 | | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |

Concentration data less than the detection limit were adjusted to equal the detection limit, which represents a conservative approach to the HHERA

## Table I-27 Continued: Measured Concentrations (µg/g) of Chemical Parameters in Fish

| | F20 | F21 | F22 | F23 | F24 | F25 | F26 | F27 | F28 | F29 | F30 | F31 | F32 | F33 | F34 | F35 | F36 | F37 | F38 | F39 | F40 | F41 | GN1 | GN3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 05-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 06-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 07-SEP-12 | 06-SEP-12 | 06-SEP-12 |
| | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 | 10:00 |
| | L1234648-20 | L1234648-21 | L1234648-22 | L1234648-23 | L1234648-24 | L1234648-25 | L1234648-26 | L1234648-27 | L1234648-28 | L1234648-29 | L1234648-30 | L1234648-31 | L1234648-32 | L1234648-33 | L1234648-34 | L1234648-35 | L1234648-36 | L1234648-37 | L1234648-38 | L1234648-39 | L1234648-40 | L1234648-41 | L1234648-42 | L1234648-43 |
| | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue | Tissue |
| **Chemical Parameter** | | | | | | | | | | | | | | | | | | | | | | | | |
| Al | 0.66 | 5.16 | 0.86 | 0.53 | 0.92 | 0.4 | 2.35 | 0.4 | 0.45 | 1.4 | 0.49 | 1.25 | 1.15 | 3.28 | 9.12 | 1.21 | 8.59 | 1.33 | 1.29 | 0.74 | 3.17 | 7.49 | 0.4 | 0.63 |
| Sb | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0022 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| As | 0.0441 | 0.0418 | 0.05 | 0.0399 | 0.0601 | 0.0509 | 0.0353 | 0.029 | 0.0583 | 0.051 | 0.0483 | 0.0282 | 0.0193 | 0.0205 | 0.0224 | 0.0176 | 0.0442 | 0.0155 | 0.0201 | 0.0199 | 0.0253 | 0.0306 | 0.0517 | 0.0386 |
| Ba | 0.019 | 0.101 | 0.018 | 0.011 | 0.021 | 0.07 | 0.039 | <0.010 | <0.010 | 0.03 | 0.012 | 0.185 | 0.117 | 0.284 | 0.251 | 0.157 | 0.252 | 0.152 | 0.16 | 0.215 | 0.044 | 0.074 | 0.16 | <0.010 |
| Be | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Bi | 0.002 | 0.002 | 0.0025 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| B | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Cd | 0.002 | 0.0028 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Ca | 113 | 167 | 129 | 165 | 190 | 170 | 109 | 120 | 139 | 150 | 118 | 10100 | 5360 | 10600 | 7990 | 8150 | 10900 | 6550 | 6660 | 9090 | 121 | 114 | 6320 | 94.5 |
| Cs | 0.0126 | 0.0136 | 0.0124 | 0.0175 | 0.0142 | 0.0137 | 0.0085 | 0.0159 | 0.0164 | 0.0138 | 0.0138 | 0.0475 | 0.051 | 0.0693 | 0.0421 | 0.0507 | 0.0418 | 0.0562 | 0.0551 | 0.0417 | 0.0503 | 0.0511 | 0.0119 | 0.0142 |
| Cr | 0.028 | 0.084 | 0.02 | 0.026 | 0.085 | 0.014 | 0.071 | 0.035 | 0.042 | 0.034 | 0.048 | 0.033 | 0.087 | 0.06 | 0.097 | 0.074 | 0.126 | 0.109 | 0.199 | 0.119 | 0.054 | 0.046 | 0.135 | 0.03 |
| Co | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0078 | 0.004 | 0.0219 | 0.004 | 0.0047 | 0.004 | 0.004 | 0.0105 | 0.004 | 0.004 |
| Cu | 0.124 | 0.19 | 0.118 | 0.125 | 0.157 | 0.137 | 0.11 | 0.12 | 0.114 | 0.123 | 0.124 | 0.297 | 0.235 | 0.236 | 0.233 | 0.225 | 0.295 | 0.227 | 0.264 | 0.214 | 0.173 | 0.231 | 0.195 | 0.1 |
| Ga | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Fe | 1.47 | 5.85 | 1.49 | 2.47 | 2.25 | 1.4 | 6.07 | 1.05 | 1.9 | 2.24 | 1.62 | 2.72 | 2 | 4.88 | 11 | 2.83 | 12.6 | 5.2 | 3.52 | 2.45 | 5.59 | 14.1 | 1.88 | 1.73 |
| Pb | 0.004 | 0.0121 | 0.0073 | 0.0065 | 0.004 | 0.004 | 0.0132 | 0.004 | 0.004 | 0.01 | 0.004 | 0.0828 | 0.0077 | 0.0082 | 0.0191 | 0.004 | 0.0121 | 0.057 | 0.0078 | 0.0064 | 0.0241 | 0.0193 | 0.0078 | 0.004 |
| Li | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.026 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Mg | 345 | 310 | 346 | 348 | 348 | 330 | 242 | 337 | 324 | 358 | 365 | 467 | 397 | 452 | 446 | 434 | 482 | 403 | 421 | 457 | 378 | 356 | 404 | 325 |
| Mn | 0.139 | 0.228 | 0.103 | 0.114 | 0.156 | 0.14 | 0.111 | 0.0762 | 0.115 | 0.139 | 0.128 | 0.518 | 0.331 | 0.659 | 0.555 | 0.397 | 0.596 | 0.402 | 0.464 | 0.517 | 0.229 | 0.319 | 0.659 | 0.0892 |
| Hg | 0.165 | 0.241 | 0.196 | 0.442 | 0.18 | 0.195 | 0.173 | 0.245 | 0.206 | 0.207 | 0.14 | 0.108 | 0.121 | 0.155 | 0.0975 | 0.105 | 0.0978 | 0.136 | 0.114 | 0.105 | 0.143 | 0.142 | 0.191 | 0.503 |
| Me-Hg | 0.165 | 0.241 | 0.196 | 0.442 | 0.18 | 0.195 | 0.173 | 0.245 | 0.206 | 0.207 | 0.14 | 0.108 | 0.121 | 0.155 | 0.0975 | 0.105 | 0.0978 | 0.136 | 0.114 | 0.105 | 0.143 | 0.142 | 0.191 | 0.503 |
| Mo | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0948 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Ni | 0.02 | 0.033 | 0.012 | <0.010 | 0.048 | 0.014 | 0.115 | 0.028 | 0.066 | 0.021 | 0.041 | 0.022 | 0.15 | 0.168 | 0.06 | 0.05 | 0.055 | 0.053 | 0.095 | 0.069 | 0.022 | 0.027 | 0.068 | 0.017 |
| Pb | 2300 | 2080 | 2310 | 2290 | 2320 | 2190 | 1620 | 2230 | 2150 | 2240 | 2310 | 7840 | 4690 | 7960 | 6650 | 6690 | 8580 | 5350 | 5960 | 7390 | 2500 | 2410 | 5580 | 2230 |
| K | 4810 | 4540 | 4740 | 4840 | 4660 | 4430 | 2840 | 4680 | 4210 | 4890 | 4770 | 3790 | 4150 | 3900 | 3990 | 3830 | 3980 | 3920 | 3910 | 3940 | 5090 | 4840 | 3780 | 4510 |
| Re | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| Rb | 10.2 | 8.53 | 9.91 | 11.8 | 11.5 | 10.1 | 5.95 | 12.6 | 9.87 | 9.02 | 11.2 | 12.3 | 12.9 | 12.3 | 10.7 | 12.9 | 12.5 | 14.2 | 14 | 12.1 | 13.5 | 13.5 | 7.99 | 11.6 |
| Se | 0.179 | 0.182 | 0.191 | 0.106 | 0.217 | 0.216 | 0.119 | 0.191 | 0.199 | 0.181 | 0.202 | 0.283 | 0.255 | 0.228 | 0.261 | 0.233 | 0.272 | 0.278 | 0.258 | 0.254 | 0.265 | 0.227 | 0.186 | 0.222 |
| Na | 209 | 213 | 192 | 244 | 204 | 229 | 146 | 195 | 209 | 217 | 212 | 570 | 554 | 621 | 580 | 611 | 582 | 545 | 496 | 545 | 260 | 244 | 540 | 239 |
| Sr | 0.015 | 0.077 | 0.022 | 0.033 | 0.039 | 0.036 | 0.025 | 0.015 | 0.022 | 0.029 | 0.013 | 3.77 | 1.56 | 3.81 | 2.73 | 2.38 | 4.44 | 2.14 | 2.01 | 3.14 | 0.025 | 0.036 | 2.01 | 0.017 |
| Te | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| Tl | 0.00516 | 0.00461 | 0.00382 | 0.00349 | 0.00444 | 0.0042 | 0.00296 | 0.00365 | 0.0036 | 0.00429 | 0.00481 | 0.00529 | 0.00304 | 0.00446 | 0.00272 | 0.00347 | 0.00579 | 0.00396 | 0.00383 | 0.00331 | 0.00391 | 0.00398 | 0.0034 | 0.00432 |
| Th | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0029 | 0.0049 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0032 | 0.002 | 0.002 | 0.002 |
| Sn | 0.005 | 0.0245 | 0.004 | 0.0079 | 0.0082 | 0.008 | 0.0182 | 0.004 | 0.004 | 0.008 | 0.0043 | 0.004 | 0.0055 | 0.007 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0041 | 0.004 | 0.0137 | 0.0208 | 0.004 | 0.0075 |
| Ti | 0.037 | 0.297 | 0.052 | 0.027 | 0.059 | 0.027 | 0.145 | 0.022 | 0.02 | 0.074 | 0.038 | 0.05 | 0.083 | 0.235 | 0.827 | 0.038 | 0.681 | 0.069 | 0.057 | 0.045 | 0.253 | 0.421 | 0.016 | 0.049 |
| U | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 |
| V | 0.004 | 0.0105 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0056 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.0093 | 0.024 | 0.004 | 0.0731 | 0.0057 | 0.0052 | 0.004 | 0.0121 | 0.0106 | 0.0061 | 0.004 |
| Y | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0065 | 0.002 | 0.0028 | 0.002 | 0.002 | 0.002 | 0.002 | 0.0087 | 0.002 | 0.002 |
| Zn | 3.25 | 3.78 | 3.77 | 3.89 | 3.37 | 3.46 | 3.01 | 3.48 | 3.52 | 3.55 | 3.83 | 15.6 | 9.61 | 13.3 | 11 | 9.61 | 19.7 | 11.2 | 12.3 | 14.1 | 5.57 | 5.63 | 7.55 | 3.58 |
| Zr | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |

Concentration data less than the detection limit were adjusted to equal the detection limit, which represents a conservative approach to the HHERA

# Appendix II

# Supplemental Information for the HHRA of Country Foods

# II. APPENDIX II- SUPPLEMENTAL INFORMATION FOR THE HHRA OF COUNTRY FOODS FOR THE GOLIATH GOLD PROJECT

## II.1 Overview

The Goliath Gold Project is located within the area covered by Treaty No. 3. Treaty No. 3 includes 28 First Nation communities and a number of villages and towns including Wabigoon, Wetden, Eagle River, Vermillion Bay, Sioux Lookout, Atikokan, Fort Frances, and Kenora. The Project is also located within an area identified by the Métis Nation of Ontario as the Treaty No. 3/Lake of the Woods/Lac Seul/Rainy River/Rainy Lake traditional harvesting territories, also named Region 1. Treasury Metals has been participating in meaningful engagement activities with key Indigenous stakeholder groups since 2008 and has obtained valuable information regarding traditional knowledge and information about the current use of land and resources for traditional purposes. Treasury Metals recognizes that Indigenous people live, work, hunt, fish, trap, drink water, and gather/harvest throughout their lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical, and economic well-being. Further to this, Treasury Metals recognizes that these traditional lands are inextricably connected to an Indigenous community's identity and culture, inclusive of ceremonial and spiritual recognition. Treasury Metals, in respect to this, understands the importance of assessing any potential effects of the Project. Treasury Metals understands the importance of assessing any potential effects of the Project as they relate to traditional land and resource use activities and practices; and acknowledges that the Project may affect the availability of resources or practices within the Project area. Treasury Metals is committed to working with all communities to identify, mitigate, and avoid, or otherwise minimize, these potential effects to the extent practicable. Treasury Metals is aware that many the Indigenous communities are particularly concerned with the potential effects of the Project on their health including how the Project may affect air quality, surface water quality, and quality of country foods for consumption. These exposure pathways have been comprehensively investigated herein.

At the time the revised EIS was submitted in April 2018 the current Health Canada guidance for country foods assessment was their 2010 guidance document entitled, "*Supplemental Guidance on Human Health Risk Assessment for County Foods*". As part of the Round 2 Information Request process, Health Canada identified that as of June 2018, a new country foods guidance document was available entitled "*Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods*". The overall objective of the new guidance document is to provide technical guidance on defining country foods on a project basis, and assessing baseline conditions and the longer term anticipated impacts as a result of the project. It also provides recommendations for the cumulative effects assessment (if required) as well as Follow-up Programs to confirm the results of the EIS, and monitoring. As per the 2018 Health Canada country foods guidance document, the county foods assessment herein does not aim to assess the effects of the Project on changes in country foods abundance, those are assessed in Section 6 of the EIS using the data provided by the various technical disciplines as provided in the 38 appendices to the EIS (April 2018).

Although the 2018 Health Canada guidance document was not available at the time of the EIS submission in April 2018, as demonstrated in Table 3.5.3-1 of the HHERA report, the valued components, measures, and indicators applied in the EIS related to country foods sufficiently meet the overall objectives of the

guidance document including (but not limited to) the assessment of effects of the Project on the quality of country foods for consumption as well as the importance of the incorporation of traditional knowledge and consideration of current use of lands and resources for traditional purposes. The specific purpose of the country foods assessment presented in the HHERA is to provide the results of the assessment of effects on the changes in country food quality for consumption as a result of the Project. All other measures were assessed as part of the various technical disciplines in Section 6 of the EIS (April 2018), and where residual effects were identified carried forward for assessment of cumulative effects assessment and determination of significance as per the requirements of the EIS set out in the EIS guidelines (Appendix Y to the EIS [April 2018]). In the event the country foods assessment completed as part of the HHRA identifies residual adverse effects, as per the EIS guidelines, they will be carried forward for cumulative effects assessment and determination of significance.

A useful checklist tool was also provided as part of the 2018 Health Canada guidance entitled Appendix A: Country Foods in Environmental Checklist. This checklist is to be used by risk assessors to verify that the main components of the risk assessment for country foods are completed, and to identify where this information is located within the EIS document. The Appendix A: Country Foods in Environmental Checklist for the Goliath Gold Project demonstrating that the 2018 requirements of a country foods risk assessment have been met, is provided as Figure II-1 in this Appendix.

The assessment of the effects of concentrations of chemicals in source media on human health was performed using a two-step qualitative and quantitative approach. First, contaminants of concern (COCs) were selected via a qualitative screening process where predicted chemical EPCs were compared to their generic health-based Canadian or Ontario criteria/guideline/standard. Where a COC was selected based on an exceedance of its respective qualitative screening criteria, a quantitative assessment was considered. For both the HHRA and ERA, a supplemental screening was completed as part of their respective Problem Formulation steps, using component values specific to each human or ecological receptor, provided by the Ontario Ministry of Environment, Conservation and Parks (MOECP, formally the Ontario Ministry of Environment and Climate Change (MOECC)). Chemical concentrations that did not exceed their respective MOECP human health or ecological component value were qualitatively considered to present a negligible amount of potential risk for that particular receptor/pathway combination. For concentrations that exceed their respective human health or ecological component value or for which a component value for that pathway was unavailable, they were carried forward for a quantitative assessment of potential risk.

Contaminants of concern include select criteria air contaminants (CACs) in air, metals in surface water, metals in waste rock, and metals in TSF supernatant water. A quantitative assessment of exposure pathways from air, surface water, waste rock, and TSF supernatant water was performed. Methyl-mercury was also selected as a COC in surface water, TSF supernatant water and pit-lake water. Methyl-mercury was not measured as part of the baseline sampling efforts. For all assessment scenarios and project phases, methyl-mercury in water is conservatively assumed to be 100% of the mercury concentration. This approach is conservative as it is unlikely that 100% of the mercury in surface water will be methylated. Furthermore, 100% of the mercury cannot exist as both 100% inorganic mercury and 100% methyl-mercury, thereby representing an additional level of conservatism. There were no COCs identified in soil and, as such, there was no requirement for the quantitative assessment of soils as an exposure media in both the HHRA and ERA.

All chemicals selected as a COC from any source media were modelled into country food items using a literature derived uptake factor and the results of the meaningful engagement activities completed to-date. Members of Indigenous communities may use land and resources for traditional purposes, and thus may experience higher levels of exposure than members of the general population (e.g., higher rates of country foods ingestion, or more time spent outdoors). Therefore, the HHRA was completed to be protective of an Indigenous community member. The modelled concentrations in country foods were also considered in the ERA in addition to a number of other valued ecological components representative of all tropic levels and both terrestrial and aquatic habitat.

In Section 3 of the HHERA report, contaminants of concern (COCs) were selected from environmental and Project-specific media based on exceedances of applicable regulatory criteria. For conservatism, regardless of source media, all COCs from all sources were modelled into country foods to ensure that exposure dose was not underestimated. The following COCs required modelling into country foods:

- Aluminum
- Antimony
- Arsenic
- Cadmium
- Cobalt
- Copper
- Cyanide
- Lead
- Mercury
- Methyl-Mercury
- Silver
- Thallium
- Uranium
- Zinc.

Exposure point concentrations of COCs in environmental media and Project-specific media were modelled into country foods for all three study areas and all assessment scenarios for all chemicals that were identified as a COC in any of the media described above. Country foods included in the assessment were chosen based on the current use of land and resources for traditional purposes. A Follow-Up program should include a country foods survey to confirm that the country foods used in the HHERA are representative of the country foods ingested by members of the general public as well as members of local Indigenous communities.

The dose and risk calculations presented in the body of the HHERA report are entirely based on modelled country foods concentrations with the exception of fish in the Base Case Assessment Scenario, where existing fish concentrations were applied (referred to as "measured fish" in the model). A Follow-Up Program should focus on the collection of country foods from the three Study Areas for chemical analysis

of the metal parameters selected as COCs to confirm the results presented in the HHERA report and Appendix II- Modelled Country Foods Concentrations.

Concentrations of COCs were modeled into country foods via the concentration in source media multiplied by an uptake factors (bioaccumulation factors or transfer coefficients/factors), with consideration given to receptor specific inputs required such as ingestion rates and wet:wet conversion factors.

The general calculation for COC uptake into country foods is:

$$\boldsymbol{Concentration_{Country\ Food(i)} = Concentration\ in\ Source\ Media \times Uptake\ Factor}$$

The HHERA Goliath Gold Project Model was then employed to calculate the COC concentration in each country food. A sample calculation has been provided in Section II.5 for each country food.

The following of country foods were selected for the country foods assessment based on Treasury Metals' understanding of the current use of the land and resources for traditional purposes:

**Invertebrates:**

- Soil invertebrate (considered as a pathway within country foods rather than a food).

**Plants:**

- Forage (considered as a pathway within country foods rather than a food).
- Root Vegetables;
- Berries (assumed to include raspberry- *Rubus strigosus*, blueberry-*Vaccinium angustifolium*, and/or strawberry *Fragaria virginiana*);
- Macrophytes including Wild Rice (*Zizania palustris)*
- Medicinal Plants including Labrador Tea (*Ledum groenlandicum*).

**Meat (Wild Game)**

- Moose (*Acles acles*);
- Ruffled Grouse (*Bonasa umbellus)*;
- Mallard Duck (*Anas plartyrhynchos*);
- Snowshoe Hare (*Lepus americanus*)

**Fish**

- Measured fish (Walleye- *Sander vitreus* and Sauger- *Sander canadensis*)
- Modelled fish (assumed to be Walleye- *Sander vitreus* and Sauger- *Sander canadensis*)

The following list describes the COCs identified in environmental and Project-specific media, and therefore were considered as part of the country foods assessment:

- Aluminum
- Antimony
- Arsenic
- Cadmium
- Cobalt
- Copper
- Cyanide
- Lead
- Mercury
- Methyl-Mercury
- Silver
- Thallium
- Uranium
- Zinc.

The modelled EPCs of COCs in country foods at the three Study Areas for the Base Case Assessment Scenario, Project Alone Assessment Scenario, and Project Assessment Scenario are provided in Appendix IV- Model Inputs.

The chemical concentrations measured or modelled in country foods for the Base Case, Project Alone, and Project Assessment Scenarios for all three Study Areas are carried forward into the Problem Formulation, Toxicity Assessment, Exposure Assessment and Risk Characterization components of the HHRA as described in Section 4 of the HHERA report as per the requirements of Health Canada's 2018 Guidance on the Assessment of Country Foods.

The measured or modelled chemical concentrations in many of the country food items were also used in the screening level ecological risk assessment provided in Section 5 of the HHERA report.

The following subsections provide the details of the selected source environmental/Project-specific media, uptake factors, and receptor specific input factors used to calculate COC concentrations in country foods. A sample calculation and overall conclusions are also provided.

## II.2 Source Media Assumptions

This section provides the details of the assumptions made when determining which pathways (i.e. via soil or water) of COC uptake were applicable to each country food, respective of: Study Area (i.e. Study Area No. 1, 2, or 3), Assessment Scenario (i.e. Base Case, Project Alone, or Project), or Project Phase (i.e. Site Preparation and Construction, Operations, Closure, Post-Closure). Concentrations of metals from air were not modelled into country foods as no COCs were selected in air, uptake via soil and water are expected to represent a larger source of exposure, and the calculation would represent an unacceptable source of uncertainty.

Exposure to tailings in the TSF is considered an inoperable pathway given that the tailings will be submerged or encapsulated as per the engineering design of the Project. Therefore, uptake of COCs into country foods from waste rock was considered the dominate exposure pathway for COC uptake into country foods, and COC concentrations from ore/tailings were not used in the country foods assessment. Aquatic plants, birds, and mammals may ingest supernatant water from the TSF during the operations phase of the Project. Therefore, for these receptors it was conservatively assumed that 100% of COC exposure from the water pathways during operations was from the supernatant water. The only exception to this is that wild rice (i.e. macrophytes) and fish (i.e. modelled fish) concentrations were predicted based on uptake from surface water rather than TSF supernatant water as under no circumstances will wild rice grow in the TSF, or fish inhabit the TSF, therefore eliminating the TSF as an operable pathway of exposure for these two country foods.

**Table II.2-1 3.5.3-1: Source Media Assumptions**

| Study Area | No. 1 | | | | | | | | | No. 2 & No. 3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base Case | Project Alone | | | | Project | | | | Base Case | Project Alone | | | | Project | | | |
| Phase | | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Terrestrial Environment | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Aquatic Environment | Water (wet) | Water (wet) | Water (supernatant) | Water (wet) | Water (pit lake wet) | Water (wet) | Water (supernatant) | Water (wet) | Water (pit lake wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) | Water (wet) |

**NOTES:**

Shaded — Project-Specific Media

## II.3 Uptake Factors

Uptake factors including bioaccumulation factors and transfer coefficients/factors were used to model the proportion of the chemical from soil, water, or food item, that accumulate within the body of the organism. Bioaccumulation factors are unitless fractions used to directly infer contaminant uptake into a food item, whereas a transfer coefficient/factor requires inclusion of an ingestion rate and proportion of diet in order for the contaminant concentration units to be presented on a mass per mass basis. All uptake factors were selected from risk assessment literature. In cases where there was no chemical-specific uptake or transfer factor available, the 75$^{th}$ of the mean was selected as a conservative default (referred to as the "Alternative" in the model). Table II.3-1 provides the details of all uptake factors used in the modelling of COC concentrations in country foods.

**Table II.3-1 3.5.3-1: Uptake Transfer Factors**

| Parameter | Beef Transfer Coefficient (Transfer Factor) | Bird Transfer Coefficient (Transfer Factor) | Plant-Soil BCF for below-ground produce (Bioaccumulation Factor) | Plant-Soil BCF for above-ground forage (Bioaccumulation Factor) | Water to Macrophytes (Bioaccumulation Factor) | Soil to Berries (Bioaccumulation Factor) | Soil to Soil Invertebrate (Bioaccumulation Factor) | Water to Fish (Bioaccumulation Factor) |
|---|---|---|---|---|---|---|---|---|
| | $Ba_{beef}$ | $Ba_{poult}$ | $Br_{bg}$ | $Br_{f/s}$ | BAF | BAF | BAF | — |
| | day/kg | day/kg | unitless | unitless | unitless | unitless | unitless | L/kg |
| *Alternative*** | *0.01* | *0.5625* | *0.0995* | *1* | *2500* | *0.04* | *5.4985* | *912.5* |
| Aluminum | 1.50E-03 [A] | — | 6.50E-04 [D] | 1.00E+00 [D] | — | — | 0.053 [E] | 6.60E+01 [C] |
| Antimony | 1.00E-03 [A] | 0.2700 [B] | 3.00E-02 [A] | 2.00E-01 [A] | 170 [B] | 0.018 [A] | — | 9.10E+00 [A] |
| Arsenic | 2.00E-03 [A] | 0.6600 [B] | 8.00E-03 [A] | 3.60E-02 [A] | 36 [B] | 0.011 [A] | 0.258 [E] | 1.40E+01 [A] |
| Cadmium | 1.20E-04 [A] | 0.1063 [A] | 6.40E-02 [A] | 1.25E-01 [A] | 19000 [B] | 0.04 [A] | 17.105 [E] | 1.40E+02 [A] |
| Cobalt | 2.00E-02 [A] | 0.0400 [B] | 7.00E-03 [D] | 2.00E-02 [D] | 24000 [B] | 0.004 [A] | — | 9.60E+01 [A] |
| Copper | 1.00E-02 [A] | 1.4900 [B] | 2.50E-01 [D] | 4.00E-01 [D] | 4000 [B] | 0.14 [A] | 0.754 [E] | 1.24E+02 [A] |
| Cyanide | — | — | — | — | — | — | — | — |
| Lead | 3.00E-04 [A] | 0.0700 [B] | 9.00E-03 [A] | 4.50E-02 [A] | 3400 [B] | 0.0011 [A] | 3.342 [E] | 1.80E+01 [A] |
| Mercury | 1.00E-02 [A] | — | 1.00E-01 [A] | — | — | — | 5.231 [E] | 1.0E+03 [F] |
| Methyl-Mercury | 7.80E-04 | 0.0036 | 9.90E-02 | — | — | — | — | 1.0E+06 [F] |
| Silver | 3.00E-03 [A] | — | — | 1.80E-04 [C] | — | — | — | — |
| Thallium | 4.00E-02 [A] | 0.2700 [B] | 4.00E-04 [A] | 4.00E-03 [A] | — | 0.013 [A] | — | 2.90E+03 [A] |
| Uranium | 9.11E-05 [A] | 0.0200 [B] | — | 2.00E-02 [C] | 1600 [B] | 0.0013 [A] | — | 2.30E+01 [A] |
| Zinc | 9.00E-05 [A] | 31.3300 [B] | 9.00E-01 [A] | 2.50E-01 [A] | 800 [B] | 0.11 [A] | 5.766 [E] | 2.50E+02 [A] |

**REFERENCES:**


A United States Environmental Protection Agency, 2005. Source Data Human Health Risk Assessment Protocol (HHRAP)for Hazardous Waste Combustion Facilities, Final. Chapter 5- Estimating Media Concentrations

B Sheppard S.C., Long J.M., Sanipelli B. 2010. Measured elemental transfer factors for boreal hunter/gatherer scenarios: fish, game and berries. Journal of Environmental Radioactivity 101(2010) 902-909.

C International Atomic Energy Agency 2010. Technical Report Series No. 472. Handbook of Parameter Values for Prediction of Radionuclide Transfer in Terrestrial and Freshwater Environments.

D United States Environmental Protection Agency Region 9, 2007. Draft Risk Assessment for the Siemens Water Technology Corporation. Appendix F

E Sample B.E. Beauchamp J.J., Efroymson R.A., and Suter II G.W., Ashwood T.L. 1998. Development and Validation of Bioaccumulation Models for Earthworms. Oak Ridge National Laboratory, Oak Ridge, TN.

F Environment Canada 2003. Canadian Water Quality Guidelines for freshwater aquatic life: Inorganic mercury and methyl mercury: Scientific supporting document.


* Applied mercury in absence of methyl mercury

** 75th percentile of the mean of all available data (see model inputs, Appendix IV)

## II.4 Receptor Specific Input Parameters

Receptor specific input parameters were required for country foods whose ingestion replied on inputs based on COC concentrations in other country foods. For example, a grouse will be exposed to COCs in soil and water, however also exposed to COCs via the ingestion of forage, berries, and soil invertebrates via its own dietary intake. Receptor specified dietary inputs were obtained from relevant risk assessment literature, in most cases the Federal Contaminated Sites Action Plan Guidance on Ecological Risk Assessment (2012).

Receptor specific inputs are also required to account for wet:wet weight conversions. The analytical laboratory reports metal concentrations on a wet weight basis, however the foods that are ingestion within an environmental setting are ingested on a wet weight basis, and therefore ingestion rates are presented on a wet weight basis. Thus a wet:wet weight conversion is required in the calculations to adjust for chemical concentrations reported on a wet weight basis. The wet:wet conversions were obtained from the same literature study in which the uptake factors were derived.

All receptor specific input parameters relied on in the calculations are provided in Table II.4-1.

**Table II.4-1: Receptor Specific Inputs Required for Calculations[A]**

| Parameter | | Fraction of Diet: Plant_1 | Fraction of Diet: Plant_2 | Fraction of Diet: Plant_3 | Fraction of Diet: Plant_4 | Fraction of Diet: Invertebrate_1 | Fraction of Diet: Water | Fraction of Diet: Soil | Wet Ingestion Rates: Plant_1 | Wet Ingestion Rates: Plant_2 | Wet Ingestion Rates: Plant_3 | Wet Ingestion Rates: Plant_4 | Wet Ingestion Rates: Invertebrate_1 | Ingestion Rates: Water | Ingestion Rates: Soil | Moisture Content | Wet/Wet Ratio Conversion |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | Common Name | — | — | — | — | — | — | — | kg/d | kg/d | kg/d | kg/d | kg/d | L/d | Kg/day | — | — |
| Meat_1 | Moose | 80% | — | 20% | — | — | 100% | 100% | 2.37E+01 | — | 1.09E+01 | — | — | 2.00E+01 | 1.60E-01 | 68%[B] | 0.32 |
| Meat_2 | Mallard Duck | — | 5% | 50% | — | 45% | 100% | 100% | — | 1.81E-02 | 2.05E-01 | — | 2.70E-01 | 6.67E-02 | 1.20E-03 | 68%[B] | 0.32 |
| Meat_3 | Ruffed Grouse | 55% | 30% | — | — | 15% | 100% | 100% | 6.73E-02 | 5.99E-02 | — | — | 4.97E-02 | 3.96E-02 | 6.62E-04 | 68%[B] | 0.32 |
| Meat_4 | Deer Mouse | 15% | 35% | — | — | 50% | 100% | 100% | 1.30E-04 | 3.04E-04 | — | — | 4.34E-04 | 4.12E-03 | 1.74E-05 | 68%[B] | 0.32 |
| Meat_14 | Snowshoe Hare | 90% | 10% | — | — | — | 100% | 100% | 2.60E-01 | 4.70E-02 | — | — | — | 7.03E-02 | 4.91E-03 | 68%[B] | 0.32 |
| Plant_1 | forage | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 73%[c] | 0.2705 |
| Plant_2 | berries | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 83%[c] | 0.165875 |
| Plant_3 | macrophytes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 85%[c] | 0.1462083 |
| Plant_4 | Labrador Tea | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 50%[c] | 0.4993636 |
| Plant_5 | root vegetable | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 73%[c] | 0.27 |
| Invertebrate_1 | soil invertebrate | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 90%[c] | 0.1 |
| Invertebrate_2 | benthic invertebrate | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 90%[c] | 0.1 |
| Invertebrate_3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Invertebrate_4 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Fish_1 | measured fish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 75% | 0.25 |
| Fish_2 | generic fish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 75% | 0.25 |

**REFERENCES:**

A Federal contaminated Sites Action Plan (FCSAP) March 2012. Ecological Risk Assessment Guidance. Module 3: Standardization of Wildlife Receptor Characteristics.
B Cornell Lab of Ornithogy. https://www.allaboutbirds.org/guide/Canada_Goose/lifehistory
C Sheppard S.C., Long J.M., Sanipelli B. 2010. Measured elemental transfer factors for boreal hunter/gatherer scenarios: fish, game and berries. Journal of Environmental Radioactivity 101(2010) 902-909.

## II.5 Sample Calculation

A sample calculation is provided to demonstrate the calculation of chemical concentrations into each country food item.

The sample calculation provided in Table II.5-2 is representative of the exposure scenario outlined in Table II.5-1 which is only representative of:

- 1 of 15 COCs,
- 1 of 3 Study Areas,
- 1 of 3 Assessment Scenarios, and
- 1 of 4 Project Phases

Therefore, the HHERA Goliath Gold Project Model was employed to calculate the COC concentrations in each country food for all possible permutations.

Three equations were required to calculate the concentrations in the various country foods. All three equations are provided below.

**Table II.5-1: Scenario for Sample Calculation**

| *Scenario for Sample Calculation* | |
|---|---|
| *Study Area* | *No. 2 (HHERA LSA)* |
| *Assessment Scenario* | *Project* |
| *Project Phase* | *Operations* |
| *Chemical* | *Lead* |

**Model Concentrations from Media into Country Foods**

Equation Reference Number

1- $Country\ Food\ Concentration\ = Concentration\ Source\ Media\ \times Uptake\ Factor\ \times Wet{:}\ Dry\ Conversion\ Factor$

2- $Country\ Food\ Concentration\ = Concentration\ Source\ Media\ \times Ingestion\ Rate\ Per\ Fraction\ of\ Diet\ \times Transfer\ Coefficient\ \times Wet{:}\ Dry\ Conversion\ Factor$

3- $Country\ Food\ Concentration\ = \sum Equation\ 2$

## Potential Human Health Risks via Exposure via Country Foods Consumption

The country foods assessment was competed as part of the HHRA as per Health Canada's 2018 Guidance document entitled *"Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods"*. The food materials included in the country foods assessment were root vegetables, berries, macrophytes (for example wild rice), medicinal plants (for example Labrador tea), moose, duck, grouse, rabbit, and fish, which were identified during the engagement activities as being important foods to one or more Indigenous community groups. As stated above, for safety purposes, access to Study Area No. 1 the Operations Area will be restricted to only employees of Treasury Metals during the active phases of the Project and no country foods will be harvested from the Operations Area during these Project Phases. Country foods harvesting may resume at Study Area No. 1 the Operations Area during the Post-Closure phase of the Project. Although restricting access to human receptors within the Operations Area is a reasonable administrative control for public safety, restricting access to mobile animals such as birds (e.g. grouse and duck) and small mammals (e.g. rabbit) may not be feasible or 100% effective. Thus, all country food item were conservatively assume to be potentially exposed to Project-specific media within the Operations Area and then consumed either by larger predatory species or human receptors off-site. Therefore, an assumption was made that 5% of the mobile country foods consumed by human receptors in Study Areas No. 2 and 3 may come from the Operations Area during the Site Preparation and Construction, Operations, and Closure phases of the Project.

The results of the HHRA of country foods, indicated that the level of uncertainty associated with the country foods assessment is relatively high due to the lack of site-specific uptake factors and measured chemical concentrations data in country food items including plants, mammals, and birds. A Follow-Up Program is provided in Section 7 of the HHERA Report which outlines the monitoring/ data collection recommendations to support a Follow-Up human health risk assessment for country foods. The Follow-Up Program outlines recommendations for receptor and exposure pathway characterization, as well as methods for estimating receptor exposure to baseline levels of COCs in the environment. The Follow-Up Program is consistent with Health Canada's 2018 guidance document which states that although baseline levels of COCs in country foods should be measured as part of the EA prior to the project start, if these levels have not been measured or are not comprehensive (such as in the current case), then it is recommended that they be identified prior to the project start. As such, the results of the risk characterization for both non-carcinogenic chemicals and carcinogenic chemicals in country foods discussed herein, determined using default Health Canada assumptions, and non-site-specific uptake factors, have been utilized to outline the Follow-Up Program including Monitoring in Section 7. The Follow-Up Program for Human Health provided in Section 7 of this HHERA Report supersedes Section 13.19 of the EIS (April 2018).

For the Base Case Assessment Scenario, risk estimates above the Health Canada benchmarks were identified for cobalt, thallium, lead, and zinc. The modelled concentration of chemicals in macrophytes/aquatic plants (i.e. wild rice), duck, and moose contributed the most to the HQ exceedances which all relied on the water to macrophyte uptake factors obtained from Sheppard et al., 2010. A Follow-Up program will include determination of site-specific chemical uptake factors to confirm the risk characterization results presented herein.

The results of the country food assessment indicate that for the Project Assessment Scenario, the only risk estimates above the Health Canada benchmarks were via the same chemicals identified in the Base Case Assessment Scenario, with the exception of arsenic. The results of the assessment of potential risk via the ingestion of country foods pathway identified risk estimates above the Health Canada benchmarks for arsenic, cobalt, thallium and zinc.

- Arsenic: a HQ>0.2 for arsenic was identified for the toddler during the Project Alone Case and Project Case for Study Area 2 and 3 only. The arsenic HQ is marginally greater than 0.2. The arsenic HQ exceedance as a result of the Project is due to the assumption that all country food items will be uniformly exposed to the predicted arsenic concentrations in Blackwater Creek (i.e., highest estimate surface water concentration), which is an overly conservative assumption to make for the LSA which is 3,351 ha in size and the Village of Wabigoon which is located ~4 km south of the Project Boundary. Due to the conservatisms, non-carcinogenic risks are not anticipated via ingestion of arsenic in country foods.

- Cobalt: potential risks identified, however, no there is increase above Base Case. As such there is no risk associated with cobalt in country foods from the Goliath Gold Project.

- Thallium: potential risks identified which are approximately two and a half times greater than the Base Case Assessment Scenario.

- Zinc: potential risks were identified at the Base Case which marginally increased (27%) from the Goliath Gold Project. As noted above for the discussion of arsenic, this is considered conservative.

The change in concentrations in food items was largely driven by exposure pathways related to surface water (e.g., macrophytes/aquatic plants and ducks). For thallium, the concentration in the moose was the predominant exposure pathway (i.e., due to ingestion of aquatic plants which relates to surface water uptake). Given the conservative assumptions applied in the HHERA, as well as the use of non-site-specific uptake factors, a Follow-Up Program will be utilized to confirm the validity of the change in surface water quality and concentrations in food items. With the exception of thallium, the results indicate that the predicted incremental changes in non-cancer risk values associated with the Goliath Gold Project's will have very little to no effect on the health risks associated with exposure to COCs via country food ingestion to all human receptors at all Study Areas assessed. A Follow-Up Program is required to reduce the level of uncertainty associated with the uptake factors.

Throughout ongoing engagement activities, members of several local and regional Indigenous communities shared with Treasury Metals, that ensuring the quality of fish for human consumption is integral to their overall well-being and current use of the lands and resources for traditional purposes. The results of the country foods assessment indicated that with the exception of thallium in modelled fish (discussed above), the estimated hazard quotients for all chemical parameters, receptors, exposure scenarios, Study Areas, and Assessment Scenarios were within the target risk benchmark set by Health Canada. Given that thallium has not been identified by the MOECP in their Guide to Eating Ontario Fish, the HQ exceedances may be artifact of the conservative assumptions applied herein, and a generic uptake factor. When the preliminary site-specific uptake factor is applied (as determined from measured surface water and fish concentrations from Baseline studies) thallium concentrations in modelled fish would not

represent a potential risk to human health. As such, no potential risk is anticipated to humans as a result of the Goliath Gold Project during the active Project phases or following closure of the Project. None of the chemical EPC measured in the tissue of fish collected as part of the baseline studies in support of the EIS resulted in HQs above the Health Canada targets. In fact, estimated HQs for mercury and methyl-mercury in fish for the Project Alone Assessment Scenario are lower than those for the Base Case Assessment Scenario by a maximum of 13% which is as a result of the sophisticated water treatment Treasury Metals is proposing for the Goliath Gold Project. The concentration of methyl-mercury in fish was conservatively assumed to equal 100% of the concentration of mercury, meaning that the assumption was made in this HHRA, that all of the mercury in the environment is simultaneously converted to methyl-mercury. This represents an overly conservative approach as the biotransformation of mercury to methyl-mercury is a process dependent on environmental conditions including temperature, community-level physiological profiles of microbiota, and surface water chemistry (including sulfate concentrations). The estimated hazard quotient from the 95$^{th}$ UCLM of mercury and methyl-mercury in fish were below the Health Canada risk targets for all receptors for the Base Case, Project Alone, and Project Assessment scenarios. For the Base Case Assessment Scenario, the EPC for fish was that of the measured fish, whereas the Project Alone and Project Assessment scenarios applied the modelled fish EPCs. To demonstrate that potential risk via consumption of fish was not underestimated with the use of the 95% UCLM as an EPC instead of a maximum concentration, HQs were estimated for the Base Case Assessment Scenario using the maximum measured concentration of lead, mercury (and assumed methyl-mercury) in measured fish. The results indicated that even with the application of the maximum concentrations, estimated HQs were below the Health Canada acceptable risk benchmark. Furthermore, the data with respect to chemical concentrations in measured fish were collected from higher tropic level fish (Sauger and Walleye), who are anticipated to have the highest contaminant concentrations due to the process of biomagnification within the food chain and therefore whose consumption is anticipated to result in the highest HQs. As such no potential risk is identified as a result of lead, mercury or methyl-mercury or any other COC in fish.

**Appendix A: Country Foods in Environmental Checklist for the Goliath Gold Project**

Figure 3.6.1 continued….

# Table II.5-2: Sample Calculation of Lead Uptake into Country Foods

| PARAMETER | Concentration in forage (mg/kg) | Concentration in berries (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in Moose (mg/kg) | | | | | Concentration in Mallard Duck (mg/kg) | | | | | | Concentration in Ruffed Grouse (mg/kg) | | | | | | Concentration in Deer Mouse (mg/kg) | | | | | | Concentration in Snowshoe Hare (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Plant 1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Invertebrate_1 | Fish_2 | Meat_1 | | | | | Meat_2 | | | | | | Meat_3 | | | | | | Meat_4 | | | | | | Meat_14 | | | | | |
| | Forage | Berries | Wild Rice (macrophytes) | Medicinal Plant | Root Vegetable | Soil Invertebrate | Modelled Fish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Equation Applied | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 |
| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | Soil | Soil | Water (wet) | Soil | Soil | Soil | Water (wet) | — | Plant_1 | Plant_3 | media_Water (wet) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | media_Water (wet) | media_Soil |
| Chemical Property | Plant-Soil BCF for above-ground forage | Soil to Berries | Water to Macrophytes | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for below-ground produce | Soil to Soil Invertebrate | Water to Fish | — | forage | macrophytes | 0 | 0 | — | berries | macrophytes | soil invertebrate | 0 | 0 | — | forage | berries | soil invertebrate | 0 | 0 | — | forage | berries | soil invertebrate | 0 | 0 | — | forage | berries | 0 | 0 |
| | 4.50E-02 | 1.10E-03 | 3.40E+03 | 4.50E-02 | 9.00E-03 | 3.34E+00 | 1.80E+01 | 3.00E-04 | | | | | 7.00E-02 | | | | | | 7.00E-02 | | | | | | 3.00E-04 | | | | | | 3.00E-04 | | | | | |
| Wet/wet Ratio Conversion | 2.71E-01 | 1.66E-01 | 1.46E-01 | 4.99E-01 | 2.70E-01 | 1.00E-01 | 3.00E-01 | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| Ingestion Rates | — | — | — | — | — | — | — | — | 2.37E+01 | 1.09E+01 | 2.00E+01 | 1.60E-01 | — | 1.81E-02 | 2.05E-01 | 2.70E-01 | 6.67E-02 | 1.20E-03 | — | 6.73E-02 | 5.99E-02 | 4.97E-02 | 3.96E-02 | 6.62E-04 | — | 3.25E-03 | 1.24E-02 | 2.93E-02 | 4.12E-03 | 1.17E-04 | — | 2.60E-01 | 4.70E-02 | 7.03E-02 | 4.91E-03 |

| Parameter | TOTAL CONCENTRATION IN FOOD (mg/kg) | Concentration in forage (mg/kg) | Concentration in berries (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of media_Water (wet) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (wet) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (wet) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (wet) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (wet) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 4.63E+00 | 1.15E-01 | 1.72E-03 | 1.03E+00 | 2.12E-01 | 2.29E-02 | 3.15E+00 | 9.28E-03 | 4.64E-03 | 8.15E-04 | 3.37E-03 | 1.24E-05 | 4.53E-04 | 7.51E-02 | 2.18E-06 | 1.47E-02 | 5.95E-02 | 9.62E-06 | 7.92E-04 | 1.19E-02 | 5.41E-04 | 7.21E-06 | 1.10E-02 | 5.72E-06 | 4.37E-04 | 4.66E-07 | 4.48E-09 | 1.57E-10 | 4.10E-07 | 2.55E-09 | 4.91E-08 | 2.29E-05 | 8.93E-06 | 2.43E-08 | 4.35E-08 | 1.39E-05 |

# APPENDIX A **COUNTRY FOODS IN ENVIRONMENTAL ASSESSMENT CHECKLIST**

This checklist will help verify that the main components of a country food assessment are completed. It is useful to include this checklist in the EA to identify the locations of the key components of a country food assessment, especially if the information is found in multiple sections of the EA documentation.

| **OVERALL** | | |
|---|---|---|
| ✓ | ***Item*** | |
| ✓ | 1. Worked examples are included for calculations in a quantitative risk assessment. | |
| ✓ | 2. Units are clearly stated and consistent (or conversion calculations are included as appropriate). | |
| ✓ | 3. Assumptions are clearly stated and justified. | |
| **HHRA—PROBLEM FORMULATION** | | |
| ✓ | ***Item*** | ***Section in EA*** |
| ✓ | 4. All COPCs as result of project activities are identified. | Section 3.5 of HHERA (August, 2018) |
| ✓ | 5. Possible impacted media (air, dust, sediment, water or soil) which could result in increased COPC concentrations in foods that may be consumed are identified. | Section 3.5 of HHERA (August, 2018) |
| ✓ | 6. All plant/animal/fish/fowl species that may be consumed as country foods are identified and carried forward in the risk assessment. | Section 3.5 of HHERA (August, 2018) |
| ✓ | 7. All current and likely future consumer groups are identified. | Section 4.1 of HHERA (August, 2018) |
| ✓ | 8. A detailed rationale is included for not completing a country food assessment if the conclusion is that this assessment is not necessary. | – |
| ✓ | 9. A discussion is included about whether or not a multimedia HHRA was considered and conducted for any COPC with an identified risk and multiple pathways. | Section 4.1 of HHERA (August, 2018) |
| **HHRA—EXPOSURE ASSESSMENT, EFFECTS ASSESSMENT, AND RISK CHARACTERIZATION** | | |
| ✓ | 10. The amount and frequency of consumption of each food are provided for eaters only and/or a justification is provided for assumed consumption levels if dietary intake is not available. | Section 4.3 of HHERA (August, 2018) |
| ✓ | 11. Current (baseline) COPC levels are documented in edible tissues for each of the country foods consumed by the population. If pre-existing data were used, a rationale for their use is included, making reference to timing and to geographical and population scope, and discussing any data gaps or extrapolations. | Section 3.5 of HHERA (August, 2018) |
| ✓ | 12. Likely exposure to contaminants from market food consumption is identified (optional). | – |
| ✓ | 13. A summary of the sampling program, locations of samples, and analytical data is included. | Section 5 and 6 of EIS (April, 2018) |
| ✓ | 14. A summary of the TRVs is provided, with rationale for each TRV. | Section 4.1 of HHERA (August, 2018) |

| HHRA—EXPOSURE ASSESSMENT, EFFECTS ASSESSMENT AND RISK CHARACTERIZATION (CONT'D) | | |
|---|---|---|
| ✓ | ***Item*** | ***Section in EA*** |
| ✓ | 15. A risk characterization (HQs for non-carcinogens, and ILCRs for carcinogens) is included for the following:<br>a. Each COPC for<br>i. Current (baseline) levels<br>ii. Predicted post-project levels (project alone and including cumulative effects of this project and all other known proposed projects)<br>iii. Predicted post-decommissioning (should there be any) levels<br>b. Each receptor group, as appropriate<br>c. Summing HQs and ICLRs when appropriate, based on similar mode of actions/ target organs | Section 4.4 of HHERA (August 2018) |
| ✓ | 16. The report identifies and explains whether or not any HQs exceed benchmark levels for acceptability for non-carcinogens, and whether or not any ILCRs exceed targets for carcinogens; and a rationale for benchmark selection is included. | Section 4.4 of HHERA (August 2018) |
| ✓ | 17. A discussion of uncertainties associated with assumptions in the assessment is included. | Section 4.8 of HHERA (August 2018) |
| **MITIGATION** | | |
| ✓ | Scenarios and rationales for the inclusion or exclusion of mitigation are included. | Section 3.5 & 4.4 of HHERA (August 2018)<br>Section 10 of the EIS (April 2018) |
| ✓ | A discussion regarding mitigation approaches and a rationale for the chosen approach(es) are included. | Section 3.5 & 4.4 of HHERA (August 2018)<br>Section 10 of the EIS (April 2018) |
| **MONITORING** | | |
| ✓ | Rationales for the inclusion or exclusion of monitoring are included. | Section 7 of HHERA (August 2018) |
| ✓ | A discussion about monitoring approaches and a rationale for the chosen approach(es) are included. | Section 7 of HHERA (August 2018) |
| ✓ | A communication plan is included, if appropriate. | Section 7 of HHERA (August 2018) |
| Note 1 **CUMULATIVE EFFECTS AND FOLLOW-UP PROGRAM** | | |
| ✓ | Cumulative scenarios and effects are considered. | Section 7 of HHERA (August 2018) |
| ✓ | Additional mitigation and/or monitoring are considered if cumulative effects on country foods exceed the project-only scenario. | Section 7 of HHERA (August 2018) |
| ✓ | The country food section (as required) of the follow-up program is described. | Section 7 of HHERA (August 2018) |

Note 1: No residual effects were identified in the August 2018 human health risk assessment of country foods. A Follow-Up Program is provides which details protocols and monitoring to confirm the predictions made in the HHERA (August 2018), and to reduce the uncertainties associated with chemical uptake into food items.

# Appendix III

# Sample Calculations

# III. APPENDIX III- SAMPLE CALCULATIONS

## III.1 Dermal Contact and Incidental Ingestion of TSF Supernatant Water

A sample calculation is shown for TSF supernatant water. The same equations apply for calculation of dose and potential risk via exposure to all water sources, including surface water.

| *Scenario for Calculation- Model Reference Identifier "Model_17"* | |
|---|---|
| *Study Area* | *No. 1 (Operations Area)* |
| *Assessment Scenario* | *Project* |
| *Project Phase* | *Operations* |
| *Receptor* | *Worker* |
| *Exposure Scenario* | *Worker Exposure Scenario* |
| *Chemical* | *Mercury* |
| *Chemical Concentration in Water* | *0.0018 mg/L* |

## III.2 Equation 4.2.4-1: Water Ingestion:

### III.2.1.1 Dose Calculation:

$$Dose = \frac{C_W \times IR_W \times RAF_o \times D_2 \times D_3 \times D_4}{BW \times LE}$$

$$Dose = \frac{0.0018\frac{mg}{L} \times \frac{0.21L}{day} \times 1.0 \times \frac{5}{7} \times \frac{48}{52}}{70.7\ kg}$$

$$Dose = 3.52 \times 10^{-6}\frac{mg}{kg}/day$$

### III.2.1.2 Hazard Quotient (Risk) Calculation:

$$HQ = \frac{Dose}{TRV}$$

$$HQ = \frac{3.52 \times 10^{-6}\frac{mg}{kg}/day}{0.003\frac{mg}{kg}/day}$$

$$HQ = 1.18 \times 10^{-3}$$

## III.3 Equation 4.2.4-2: Water Dermal Contact:

**A) Dermal Exposure per Event**

$$Dermal\ Exposure\ per\ Event = C_W \times CF\ \times\ K_p \times Duration$$

$$Dermal\ Exposure\ per\ Event = 0.0018\frac{mg}{L} \times\ 0.001\frac{L}{cm^3}\ \times\ 0.01\frac{cm}{hr} \times 0.5\ hr/event$$

$$Dermal\ Exposure\ per\ Event = 9.0\ \times\ 10^{-10}\frac{mg}{cm^2}/\text{event}$$

**B) Dose of Water Dermal Exposure**

### III.3.1 Dose Calculation:

$$Dose = \frac{(Dermal\ Exposure\ per\ Event\ \times Events\ per\ Day \times\ SA_T) \times\ D_2 \times D_3 \times D_4}{BW\ \times LE}$$

$$Dose = \frac{\left(9.0\ \times\ 10^{-10}\frac{mg}{cm^2}/event \times\ cm^2 \times\ 1\frac{event}{day}\right) \times \frac{5}{7} \times \frac{48}{52}}{70.7\ kg}$$

$$Dose = 5.24 \times\ 10^{-7}\frac{mg}{kg}/day$$

### III.3.2 Hazard Quotient (Risk) Calculation:

$$HQ = \frac{Dose}{TRV}$$

$$HQ = \frac{5.24\ \times\ 10^{-7}\frac{mg}{kg}/day}{0.003\frac{mg}{mg}/day}$$

$$HQ =\ 1.75\ \times\ 10^{-4}$$

## III.4 Dermal Contact and Incidental Ingestion of Waste Rock

| *Scenario for Calculation Model Reference Identifier "Model_17"* | |
|---|---|
| *Study Area* | *No. 1 (Operations Area)* |
| *Assessment Scenario* | *Project* |
| *Project Phase* | *Operations* |
| *Receptor* | *Worker* |
| *Exposure Scenario* | *Worker Exposure Scenario* |
| *Chemical* | *Arsenic* |
| *Chemical Concentration in Waste Rock* | *19.466 mg/kg* |

**Equation 4.2.4-3 Waste Rock Ingestion:**

### III.4.1 Dose Calculation:

$$Dose = \frac{C_{WR} \times IR_{WR} \times RAF_{oral} \times D_2 \times D_3 \times D_4}{BW \times LE}$$

$$Dose = \frac{19.446\,\frac{mg}{kg} \times 0.0001\,\frac{kg}{day} \times 1.0 \times \frac{5}{7} \times \frac{48}{52}}{70.7\ kg}$$

$$Dose = 1.81 \times 10^{-5}\,\frac{mg}{kg}/day$$

### III.4.2 Hazard Quotient (Risk) Calculation:

$$HQ = \frac{Dose}{TRV}$$

$$HQ = \frac{1.81 \times 10^{-5}\,\frac{mg}{kg}/day}{0.0003\,\frac{mg}{mg}/day}$$

$$HQ = 6.05 \times 10^{-2}$$

## III.5 Equation 4.2.4-4 Waste Rock Dermal Contact:

### III.5.1 Dose Calculation:

$$Dose = \frac{((C_{WR} \times SA_H \times SL_H) + (C_{WR} \times SA_o \times SL_o)) \times RAF_D \times D_2 \times D_3 \times D_4}{BW \times LE}$$

$$Non\ Cancer\ Dose = \frac{\left(\left(19.446\frac{mg}{kg} \times 890\ cm^2 \times \frac{0.001\frac{g}{cm^2}}{event} \times 1\frac{event}{day} \times 0.001\frac{kg}{g}\right) + \left(19.446\frac{mg}{kg} \times 6250\ cm^2 \times \frac{0.0001\frac{g}{cm^2}}{event} \times 1\frac{event}{day} \times 0.001\frac{kg}{g}\right)\right) \times 0.03 \times \frac{5}{7} \times \frac{48}{52}}{70.7\ kg}$$

$$Non\ Cancer\ Dose = 9.32 \times 10^{-6}\frac{mg}{kg}/d$$

### III.5.2 Hazard Quotient (Risk) Calculation:

$$HQ = \frac{Dose}{TRV}$$

$$HQ = \frac{9.32 \times 10^{-6}\ \frac{mg}{kg}/day}{0.0003\frac{mg}{mg}/day}$$

$$HQ = 3.11 \times 10^{-2}$$

### III.5.3 Total HQ for Waste Rock Direct Contact:

$$Total\ HQ\ for\ Direct\ Contact\ with\ Waste\ Rock = HQ_{ingestion} + HQ_{dermal}$$

$$Total\ HQ = 0.080144$$

## III.6 Ingestion of Country Foods

| *Scenario for Sample Calculation* | |
|---|---|
| *Primary Study Area* | *No. 2 (LSA)* |
| *Assessment Scenario* | *Project* |
| *Project Phase* | *Operations* |
| *Receptor* | *Resident- Toddler* |
| *Exposure Scenario* | *Resident Exposure Scenario & Exposure Scenario for Lead* |
| *Output Model Number* | *Model_37- Residential Model_69_Exposure Scenario for Lead* |
| *Chemical* | *Lead* |
| *Country Foods Source* | |
| *Primary = Location 2* | *50%* |
| *Secondary =Location 3* | *45%* |
| *Tertiary= Location 1* | *5%* |

### III.6.1 Equation 4.2.4-5 Country Foods Ingestion:

$$Dose = \frac{(\sum(C_{Foodi} \times IR_{Foodi} \times RAF_{Orali} \times D_i)) \times D_4}{BW \times 365 \times LE}$$

Where: Dose = Average Daily Dose (mg/kg/day) (non-carcinogens) or
Lifetime Average Daily Dose (mg/kg/day) (carcinogens)

$C_{Food}$ = Chemical Concentration in $Food_i$, EPC (mg/kg or µg/g)
$IR_{Food}$ = Food Ingestion Rate (mg/day)
$RAF_o$ = Relative Oral Absorption Factor (unitless)
$D_i$ = Days per year during which $Food_i$ is consumed
$D_4$ = Total years exposed (for carcinogens only)
365= Total days per year (constant)
BW = Body Weight (kg)
LE= Life Expectancy (years) (carcinogens only)

For the Goliath Gold Project HHRA, the country foods ingested by Residents in Study Area No. 2 are assumed to be comprised of 5% of the country foods modelled via uptake from Study Area No 1. (therefore, exposed to Project-specific media), and 50% from Study Area No 2., and 45% from Study Area No. 3.

Therefore:

$$Total\ Dose = \sum(Dose\ from\ Study\ Area\ No.2 \times 0.50) + (Dose\ from\ Study\ Area\ No.3 \times 0.45) + (Dose\ from\ Study\ Area\ No.1 \times 0.05)$$

### III.6.2 Step 1- Model COC Concentrations in Country Foods

**Model Concentrations from Media into Country Foods – Study Area No. 2 Only**

Equation Reference Number

1- $Country\ Food\ Concentration\ = Concentration\ Source\ Media\ \times Uptake\ Factor\ \times Wet{:}\ Dry\ Concersion\ Factor$

2- $Country\ Food\ Concentration\ = Concentration\ Source\ Media\ \times Ingestion\ Rate\ per\ Fraction\ of\ Diet\ \times Transfer\ Coefficient$

3- $Country\ Food\ Concentration\ = \sum Equation\ 2$

# Sample Calculation of Lead Uptake into Country Foods at Study Area

| PARAMETER | Concentration in forage (mg/kg) | Concentration in berries (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in Moose (mg/kg) | | | | | Concentration in Mallard Duck (mg/kg) | | | | | | Concentration in Ruffed Grouse (mg/kg) | | | | | | Concentration in Deer Mouse (mg/kg) | | | | | | Concentration in Snowshoe Hare (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Plant 1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Invertebrate_1 | Fish_2 | Meat_1 | | | | | Meat_2 | | | | | | Meat_3 | | | | | | Meat_4 | | | | | | Meat_14 | | | | | |
| | Forage | Berries | Wild Rice (macrophytes) | Medicinal Plant | Root Vegetable | Soil Invertebrate | Modelled Fish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Equation Applied | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 |
| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | Soil | Soil | Water (wet) | Soil | Soil | Soil | Water (wet) | — | Plant_1 | Plant_3 | media_Water (wet) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | media_Water (wet) | media_Soil | — | Plant_1 | Plant_2 | media_Water (wet) | media_Soil | |
| Chemical Property | Plant-Soil BCF for above-ground forage | Soil to Berries | Water to Macrophytes | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for below-ground produce | Soil to Soil Invertebrate | Water to Fish | — | forage | macrophytes | 0 | 0 | — | berries | macrophytes | soil invertebrate | 0 | 0 | — | forage | berries | soil invertebrate | 0 | 0 | — | forage | berries | soil invertebrate | 0 | 0 | — | forage | berries | 0 | 0 | |
| | 4.50E-02 | 1.10E-03 | 3.40E+03 | 4.50E-02 | 9.00E-03 | 3.34E+00 | 1.80E+01 | 3.00E-04 | | | | | 7.00E-02 | | | | | | 7.00E-02 | | | | | | 3.00E-04 | | | | | | 3.00E-04 | | | | | |
| Wet/wet Ratio Conversion | 2.71E-01 | 1.66E-01 | 1.46E-01 | 4.99E-01 | 2.70E-01 | 1.00E-01 | 3.00E-01 | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| Ingestion Rates | — | — | — | — | — | — | — | — | 2.37E+01 | 1.09E+01 | 2.00E+01 | 1.60E-01 | — | 1.81E-02 | 2.05E-01 | 2.70E-01 | 6.67E-02 | 1.20E-03 | — | 6.73E-02 | 5.99E-02 | 4.97E-02 | 3.96E-02 | 6.62E-04 | — | 3.25E-03 | 1.24E-02 | 2.93E-02 | 4.12E-03 | 1.17E-04 | — | 2.60E-01 | 4.70E-02 | 7.03E-02 | 4.91E-03 | |

| Parameter | TOTAL CONCENTRATION IN FOOD (mg/kg) | Concentration in forage (mg/kg) | Concentration in berries (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of media_Water (wet) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (wet) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (wet) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (wet) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (wet) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 4.63E+00 | 1.15E-01 | 1.72E-03 | 1.03E+00 | 2.12E-01 | 2.29E-02 | 3.15E+00 | 9.28E-03 | 4.64E-03 | 8.15E-04 | 3.37E-03 | 1.24E-05 | 4.53E-04 | 7.51E-02 | 2.18E-06 | 1.47E-02 | 5.95E-02 | 9.62E-06 | 7.92E-04 | 1.19E-02 | 5.41E-04 | 7.21E-06 | 1.10E-02 | 5.72E-06 | 4.37E-04 | 4.66E-07 | 4.48E-09 | 1.57E-10 | 4.10E-07 | 2.55E-09 | 4.91E-08 | 2.29E-05 | 8.93E-06 | 2.43E-08 | 4.35E-08 | 1.39E-05 |

### III.6.3 Step 2- Dose Calculation

Calculate Dose a Toddler Receives via Ingestion

| Model Calculation Inputs- Toddler | | | |
|---|---|---|---|
| **Indigenous food ingestion (kg/d)** | | | |
| – Indigenous consumption of forage | Plant_1 | — | Assumed |
| – Indigenous consumption of berries | Plant_2 | 0.0025 | Chan et al., 2014 |
| – Indigenous consumption of Labrador Tea | Plant_4 | 0.0025 | Chan et al., 2014 |
| – Indigenous consumption of macrophytes | Plant_3 | 0.0025 | Chan et al., 2014 |
| – Indigenous consumption of root vegetable | Plant_5 | 0.0025 | Chan et al., 2014 |
| – Indigenous consumption of measured fish | Fish_1 | 0.0032 | Chan et al., 2014 |
| – Indigenous consumption of generic fish | Fish_2 | 0.0032 | Chan et al., 2014 |
| – Indigenous consumption of Moose | Meat_1 | 0.0108 | Chan et al., 2014 |
| – Indigenous consumption of Mallard Duck | Meat_2 | 0.0108 | Chan et al., 2014 |
| – Indigenous consumption of Ruffed Grouse | Meat_3 | 0.0108 | Chan et al., 2014 |
| – Indigenous consumption of Snowshoe Hare | Meat_14 | 0.0108 | Chan et al., 2014 |
| **Residential Exposure Scenario** | | | |
| Hours per day | — | 24 | Health Canada |
| Days per week | — | 7 | Health Canada |
| Weeks per year | — | 52 | Health Canada |
| Days per year of contaminated food ingestion | — | 365 | Health Canada |
| **Exposure Scenario for Lead** | | | |
| Days per week | — | 7 | Health Canada |
| Weeks per year | — | 52 | Health Canada |
| Days per year of contaminated food ingestion | — | 365 | Health Canada |

$$Dose\ Study\ Area\ No.2\ Only = \left(\frac{(\sum(\times IR_{Foodi} \times RAF_{Orali} \times 365)}{BW \times 365}\right) \times 0.50$$

$$Dose\ Study\ Area\ No.2\ Only\ = 1.26 \times 10^{-4} \frac{mg}{kg}/day$$

$$\boldsymbol{Total\ Dose\ from\ Country\ Foods\ for\ Toddler\ at\ Study\ Area\ No.2}$$
$$= (Dose\ from\ Study\ Area\ No.2\ Only\ )$$
$$+ (Dose\ from\ Study\ Area\ No.3\ Only)$$
$$+ (Dose\ from\ Study\ Area\ No.1\ Only)$$

$$Total\ Dose\ from\ Country\ Foods\ for\ Toddler\ at\ Study\ Area\ No.2$$
$$= \frac{1.26 \times 10^{-4} \frac{mg}{kg}}{day} + \frac{1.14 \times 10^{-4} \frac{mg}{kg}}{day} + \frac{7.28 \times 10^{-5} \frac{mg}{kg}}{day}$$

$$= 3.13 \times 10^{-4} \frac{mg}{kg}/day$$

### III.6.4 Step 3- Hazard Quotient (Risk) Calculation

Calculate Hazard Quotient i.e. Potential Risk to Toddler:

Traditional Risk Characterization of Lead or for any COC other than lead:

$$HQ = \frac{Dose}{TRV}$$

$$HQ = \frac{3.13 \times 10^{-4} \frac{mg}{kg}/day}{0.0005 \frac{mg}{kg}/day}$$

$$HQ = 0.63$$

# Appendix IV

# Model Inputs

# Appendix IV

# Model Inputs

# APPENDIX IV- Goliath Gold Model Inputs

Appendix IV to the HHERA contains the following data tables which were relied on as inputs to the Goliath Gold Model for the HHRA and ERA:

| Table Number | Details |
|---|---|
| IV-1 | CHEMICAL CONCENTRATIONS IN SOIL |
| IV-2 | CHEMICAL CONCENTRATIONS IN WASTE ROCK |
| IV-3 | CHEMICAL CONCENTRATIONS IN SURFACE WATER (WET COVER TSF POST-CLOSURE OPTION) |
| IV-4 | CHEMICAL CONCENTRATIONS IN TAILINGS STORAGE FACILITY (TSF) SUPERNATANT WATER |
| IV-5 | CHEMICAL CONCENTRATIONS IN PIT LAKE WATER (WET COVER TSF POST-CLOSURE OPTION) |
| IV-6 | CHEMICAL CONCENTRATIONS IN FISH (MEASURED FISH) |
| IV-7 | CHEMICAL CONCENTRATIONS IN FORAGE |
| IV-8 | CHEMICAL CONCENTRATIONS IN BERRIES |
| IV-9 | CHEMICAL CONCENTRATIONS IN MACROPHYTES (e.g. Wild Rice) |
| IV-10 | CHEMICAL CONCENTRATIONS IN MEDICINAL PANT (e.g Labrador Tea) |
| IV-11 | CHEMICAL CONCENTRATIONS IN ROOT VEGETABLE |
| IV-12 | CHEMICAL CONCENTRATIONS IN SOIL INVERTEBRATE (e.g. earthworm) |
| IV-13 | CHEMICAL CONCENTRATIONS IN MOOSE |
| IV-14 | CHEMICAL CONCENTRATIONS IN MLLARD DUCK |
| IV-15 | CHEMICAL CONCENTRATIONS IN RUFFED GROUSE |
| IV-16 | CHEMICAL CONCENTRATIONS IN DEER MOUSE |
| IV-17 | CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE |
| IV-18 | CHEMICAL CONCENTRATIONS IN "MEASURED FISH" |
| IV-19 | CHEMICAL CONCENTRATIONS IN "MODELLED FISH" (referred to herein as generic fish) |

| | |
|---|---|
| IV-20 | HUMAN HEALTH RISK ASSESSMENT RECEPTOR AND EXPOSURE CHARACTERISTICS |
| | |
| IV-21 | SOURCE MEDIA ASSUMPTIONS |
| IV-22 | TABLE IV-22: CHEMICAL CHARACTERISTICS |
| IV-23 | TABLE IV-23: HUMAN HEALTH TOXICOLOGICAL REFERENCE VALUES |
| IV-24 | TABLE IV-24: ECOLOGICAL RECEPTOR (INCL COUNTRY FOODS) RECEPTOR CHARACTERISTICS |

**TABLE IV-1: CHEMICAL CONCENTRATIONS IN SOIL**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | CCME Soil Guidelines | MOECC Table 1 Site Condition Standards | Base Case | Project Only | | | | Project | | | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Antimony (Sb) | Antimony | Sb | No | 20 | 1 | 0.5 | 0.00530695 | 0.056491997 | 0.06167781 | 0.06167781 | 0.50530695 | 0.556491997 | 0.56167781 | 0.56167781 | 0.5 | 0.000215725 | 0.002994313 | 0.003210538 | 0.003210538 | 0.500215725 | 0.502994313 | 0.503210538 | 0.503210538 | 0.5 | 0.000215725 | 0.002994313 | 0.003210538 | 0.003210538 | 0.500215725 | 0.502994313 | 0.503210538 | 0.503210538 |
| Arsenic (As) | Arsenic | As | No | 12 | 11 | 3.363552072 | 0.022194312 | 0.193124885 | 0.214814236 | 0.214814236 | 3.385746384 | 3.556676957 | 3.578366308 | 3.578366308 | 3.363552072 | 0.000902189 | 0.010181182 | 0.01108553 | 0.01108553 | 3.364454261 | 3.373733253 | 3.374637602 | 3.374637602 | 3.363552072 | 0.000902189 | 0.010181182 | 0.01108553 | 0.01108553 | 3.364454261 | 3.373733253 | 3.374637602 | 3.374637602 |
| Barium (Ba) | Barium | Ba | No | 750 | 210 | 111.1861178 | 0.106100742 | 0.891723503 | 0.995533289 | 0.995533289 | 111.2922185 | 112.0778413 | 112.181651 | 112.181651 | 111.1861178 | 0.00431295 | 0.046960602 | 0.051289003 | 0.051289003 | 111.1904307 | 111.2330784 | 111.2374068 | 111.2374068 | 111.1861178 | 0.00431295 | 0.046960602 | 0.051289003 | 0.051289003 | 111.1904307 | 111.2330784 | 111.2374068 | 111.2374068 |
| Beryllium (Be) | Beryllium | Be | No | 4 | 2.5 | 0.525965023 | 0.000369783 | 0.002899181 | 0.003258228 | 0.003258228 | 0.526331806 | 0.528864204 | 0.52922325 | 0.52922325 | 0.525965023 | 1.49096E-05 | 0.000152381 | 0.000167352 | 0.000167352 | 0.525979932 | 0.526117404 | 0.526132375 | 0.526132375 | 0.525965023 | 1.49096E-05 | 0.000152381 | 0.000167352 | 0.000167352 | 0.525979932 | 0.526117404 | 0.526132375 | 0.526132375 |
| Bismuth (Bi) | Bismuth | Bi | No | — | — | 0.5 | 0.000244314 | 0.008493226 | 0.00873258 | 0.00873258 | 0.500244314 | 0.508493226 | 0.508732581 | 0.508732581 | 0.5 | 9.93128E-06 | 0.000209513 | 0.000467705 | 0.000467705 | 0.500209931 | 0.500457725 | 0.500467705 | 0.500467705 | 0.5 | 9.93128E-06 | 0.000209513 | 0.000467705 | 0.000467705 | 0.500209931 | 0.500457725 | 0.500467705 | 0.500467705 |
| Boron (B) | Boron | B | No | — | 36 | 4.092902737 | 0.039918824 | 0.247306499 | 0.286314565 | 0.286314565 | 4.132821561 | 4.340209236 | 4.379217301 | 4.379217301 | 4.092902737 | 0.001622683 | 0.012880755 | 0.014507216 | 0.014507216 | 4.09452542 | 4.105783492 | 4.107409953 | 4.107409953 | 4.092902737 | 0.001622683 | 0.012880755 | 0.014507216 | 0.014507216 | 4.09452542 | 4.105783492 | 4.107409953 | 4.107409953 |
| Cadmium (Cd) | Cadmium | Cd | No | 1.4 | 1 | 0.373616223 | 0.001288182 | 0.014301117 | 0.015560221 | 0.015560221 | 0.374904405 | 0.38791734 | 0.389176444 | 0.389176444 | 0.373616223 | 5.2364E-05 | 0.000817272 | 0.000811272 | 0.000811272 | 0.373668587 | 0.374374796 | 0.374427495 | 0.374427495 | 0.373616223 | 5.2364E-05 | 0.000758773 | 0.000811272 | 0.000811272 | 0.373668587 | 0.374374796 | 0.374427495 | 0.374427495 |
| Chromium (Cr) | Chromium | Cr | No | 64 | 67 | 54.50185026 | 0.056866338 | 0.419540719 | 0.475127598 | 0.475127598 | 54.5587166 | 54.92139098 | 54.97702286 | 54.97702286 | 54.50185026 | 0.002311592 | 0.021999427 | 0.024319026 | 0.024319026 | 54.50416186 | 54.52384969 | 54.52616929 | 54.52616929 | 54.50185026 | 0.002311592 | 0.021999427 | 0.024319026 | 0.024319026 | 54.50416186 | 54.52384969 | 54.52616929 | 54.52616929 |
| Cobalt (Co) | Cobalt | Co | No | 40 | 19 | 11.35346769 | 0.135221837 | 0.846400968 | 0.978534135 | 0.978534135 | 11.48868952 | 12.19988836 | 12.33200182 | 12.33200182 | 11.35346769 | 0.000549671 | 0.044103162 | 0.049612533 | 0.049612533 | 11.35389644 | 11.39757085 | 11.40338022 | 11.40338022 | 11.35346769 | 0.000549671 | 0.044103162 | 0.049612533 | 0.049612533 | 11.35389644 | 11.39757085 | 11.40338022 | 11.40338022 |
| Copper (Cu) | Copper | Cu | No | 63 | 62 | 64.62966637 | 0.047448698 | 0.411055937 | 0.457447649 | 0.457447649 | 64.67711507 | 65.24072231 | 65.08711402 | 65.08711402 | 64.62966637 | 0.001928769 | 0.021667244 | 0.02360157 | 0.02360157 | 64.63159514 | 64.65133362 | 64.65326794 | 64.65326794 | 64.62966637 | 0.001928769 | 0.021667244 | 0.02360157 | 0.02360157 | 64.63159514 | 64.65133362 | 64.65326794 | 64.65326794 |
| Iron (Fe) | Iron | Fe | No | — | — | 26852.01355 | 26.21182045 | 143.6469964 | 169.2920471 | 169.2920471 | 26878.22537 | 26995.66054 | 27021.30559 | 27021.30559 | 26852.01355 | 1.065493365 | 7.440485823 | 8.509769116 | 8.509769116 | 26853.07905 | 26859.45403 | 26860.52332 | 26860.52332 | 26852.01355 | 1.065493365 | 7.440485823 | 8.509769116 | 8.509769116 | 26853.07905 | 26859.45403 | 26860.52332 | 26860.52332 |
| Lead (Pb) | Lead | Pb | No | 70 | 45 | 9.325484655 | 0.162711608 | 1.912353727 | 2.076253509 | 2.076253509 | 9.488196263 | 11.24274838 | 11.40173816 | 11.40173816 | 9.325484655 | 0.006614158 | 0.101860287 | 0.108489446 | 0.108489446 | 9.332098813 | 9.427344943 | 9.433974102 | 9.433974102 | 9.325484655 | 0.006614158 | 0.101860287 | 0.108489446 | 0.108489446 | 9.332098813 | 9.427344943 | 9.433974102 | 9.433974102 |
| Lithium (Li) | Lithium | Li | No | — | — | 22.73661853 | 0.016286198 | 0.096740706 | 0.112682582 | 0.112682582 | 22.75290473 | 22.83335923 | 22.84930111 | 22.84930111 | 22.73661853 | 0.000662027 | 0.005029512 | 0.005694217 | 0.005694217 | 22.73728055 | 22.74164804 | 22.74213274 | 22.74213274 | 22.73661853 | 0.000662027 | 0.005029512 | 0.005694217 | 0.005694217 | 22.73728055 | 22.74164804 | 22.74213274 | 22.74213274 |
| Manganese (Mn) | Manganese | Mn | No | — | — | 549.4003304 | 5.537333515 | 3.260673707 | 3.786387264 | 3.786387264 | 549.9376639 | 552.6610041 | 553.1867177 | 553.1867177 | 549.4003304 | 0.021842379 | 0.169679317 | 0.191599209 | 0.191599209 | 549.4221728 | 549.5700097 | 549.5919296 | 549.5919296 | 549.4003304 | 0.021842379 | 0.169679317 | 0.191599209 | 0.191599209 | 549.4221728 | 549.5700097 | 549.5919296 | 549.5919296 |
| Mercury (Hg) | Mercury | Hg | No | 6.6 | 0.16 | 0.039203831 | 0.000331204 | 0.001927546 | 0.002232476 | 0.002232476 | 0.03954287 | 0.041158377 | 0.041463306 | 0.041463306 | 0.039203831 | 1.26843E-05 | 0.000110382 | 0.000113096 | 0.000113096 | 0.039343927 | 0.039343927 | 0.039503831 | 0.039503831 | 0.039203831 | 1.26843E-05 | 0.000110382 | 0.000113096 | 0.000113096 | 0.039343927 | 0.039343927 | 0.039503831 | 0.039503831 |
| Molybdenum (Mo) | Molybdenum | Mo | No | 5 | 2 | 0.575904698 | 0.00713299 | 0.012948738 | 0.014056473 | 0.014056473 | 0.577037688 | 0.588883436 | 0.589961171 | 0.589961171 | 0.575904698 | 4.60956E-05 | 0.000673663 | 0.000673663 | 0.000673663 | 0.57592754 | 0.576923173 | 0.576538361 | 0.576538361 | 0.575904698 | 4.60956E-05 | 0.000673663 | 0.000673663 | 0.000673663 | 0.57592754 | 0.576923173 | 0.576538361 | 0.576538361 |
| Nickel (Ni) | Nickel | Ni | No | 45 | 37 | 30.91471598 | 0.027964505 | 0.17711469 | 0.20447739 | 0.20447739 | 30.94268448 | 31.09183095 | 31.11919372 | 31.11919372 | 30.91471598 | 0.001136745 | 0.009233401 | 0.010374305 | 0.010374305 | 30.91585272 | 30.92394938 | 30.92509028 | 30.92509028 | 30.91471598 | 0.001136745 | 0.009233401 | 0.010374305 | 0.010374305 | 30.91585272 | 30.92394938 | 30.92509028 | 30.92509028 |
| Phosphorus (P) | Phosphorus | P | No | — | — | 552.3403097 | 0.65338168 | 3.98646392 | 4.625566383 | 4.625566383 | 552.9936914 | 556.3267737 | 556.9658761 | 556.9658761 | 552.3403097 | 0.026559688 | 0.207496566 | 0.234144265 | 0.234144265 | 552.3668694 | 552.5478063 | 552.574454 | 552.574454 | 552.3403097 | 0.026559688 | 0.207496566 | 0.234144265 | 0.234144265 | 552.3668694 | 552.5478063 | 552.574454 | 552.574454 |
| Selenium (Se) | Selenium | Se | No | 1 | 1.2 | 0.5 | 7.35177E-05 | 0.007995835 | 0.008068313 | 0.008068313 | 0.500073518 | 0.507995835 | 0.508068313 | 0.508068313 | 0.5 | 2.98846E-06 | 0.000433053 | 0.000436075 | 0.000436075 | 0.500002988 | 0.500433053 | 0.500436075 | 0.500436075 | 0.5 | 2.98846E-06 | 0.000433053 | 0.000436075 | 0.000436075 | 0.500002988 | 0.500433053 | 0.500436075 | 0.500436075 |
| Silver (Ag) | Silver | Ag | No | 20 | 0.5 | 0.117349845 | 0.001438222 | 0.022999691 | 0.025402061 | 0.025402061 | 0.118787867 | 0.141346337 | 0.142751706 | 0.142751706 | 0.117349845 | 5.84631E-05 | 0.001283053 | 0.001341651 | 0.001341651 | 0.117408108 | 0.118932698 | 0.118991296 | 0.118991296 | 0.117349845 | 5.84631E-05 | 0.001283053 | 0.001341651 | 0.001341651 | 0.117408108 | 0.118932698 | 0.118991296 | 0.118991296 |
| Strontium (Sr) | Strontium | Sr | No | — | — | 41.33197775 | 0.026265274 | 0.202221066 | 0.227937075 | 0.227937075 | 41.35824303 | 41.53419882 | 41.55991483 | 41.55991483 | 41.33197775 | 0.001067672 | 0.010619459 | 0.011691701 | 0.011691701 | 41.33304543 | 41.34259721 | 41.34366946 | 41.34366946 | 41.33197775 | 0.001067672 | 0.010619459 | 0.011691701 | 0.011691701 | 41.33304543 | 41.34259721 | 41.34366946 | 41.34366946 |
| Thallium (Tl) | Thallium | Tl | No | 1 | 1 | 0.25 | 0.000369514 | 0.010605511 | 0.010966869 | 0.010966869 | 0.250369514 | 0.260605511 | 0.260966869 | 0.260966869 | 0.25 | 1.50206E-05 | 0.000570683 | 0.000585575 | 0.000585575 | 0.250015021 | 0.250570683 | 0.250585575 | 0.250585575 | 0.25 | 1.50206E-05 | 0.000570683 | 0.000585575 | 0.000585575 | 0.250015021 | 0.250570683 | 0.250585575 | 0.250585575 |
| Tin (Sn) | Tin | Sn | No | 5 | — | 2.5 | 0.001332377 | 0.072392541 | 0.073697577 | 0.073697577 | 2.501332377 | 2.572392541 | 2.573697577 | 2.573697577 | 2.5 | 5.41606E-05 | 0.003911672 | 0.003966087 | 0.003966087 | 2.500504161 | 2.503911672 | 2.503966087 | 2.503966087 | 2.5 | 5.41606E-05 | 0.003911672 | 0.003966087 | 0.003966087 | 2.500504161 | 2.503911672 | 2.503966087 | 2.503966087 |
| Titanium (Ti) | Titanium | Ti | No | — | — | 1560.904401 | 1.066257357 | 6.477521576 | 7.321427497 | 7.321427497 | 1561.970759 | 1567.381923 | 1568.425829 | 1568.425829 | 1560.904401 | 0.043346974 | 0.337092849 | 0.380619032 | 0.380619032 | 1560.947748 | 1561.241494 | 1561.28502 | 1561.28502 | 1560.904401 | 0.043346974 | 0.337092849 | 0.380619032 | 0.380619032 | 1560.947748 | 1561.241494 | 1561.28502 | 1561.28502 |
| Uranium (U) | Uranium | U | No | 23 | 1.9 | 0.5 | 0.001118336 | 0.013463482 | 0.014556802 | 0.014556802 | 0.501118336 | 0.513463482 | 0.514556802 | 0.514556802 | 0.5 | 4.54599E-05 | 0.000715618 | 0.000761205 | 0.000761205 | 0.50004546 | 0.500715618 | 0.500761205 | 0.500761205 | 0.5 | 4.54599E-05 | 0.000715618 | 0.000761205 | 0.000761205 | 0.50004546 | 0.500715618 | 0.500761205 | 0.500761205 |
| Vanadium (V) | Vanadium | V | No | 130 | 86 | 15.63466816 | 0.031148887 | 0.177794525 | 0.20830058 | 0.20830058 | 15.66581705 | 15.81246268 | 15.84296874 | 15.84296874 | 15.63466816 | 0.001266189 | 0.00922687 | 0.010498835 | 0.010498835 | 15.63693435 | 15.64389503 | 15.64516699 | 15.64516699 | 15.63466816 | 0.001266189 | 0.00922687 | 0.010498835 | 0.010498835 | 15.63693435 | 15.64389503 | 15.64516699 | 15.64516699 |
| Zinc (Zn) | Zinc | Zn | No | 200 | 290 | 67.30535403 | 0.504729431 | 4.995449529 | 5.488683946 | 5.488683946 | 67.81008347 | 72.30080396 | 72.79403198 | 72.79403198 | 67.30535403 | 0.020517037 | 0.264296485 | 0.284862125 | 0.284862125 | 67.32587107 | 67.59565052 | 67.59021616 | 67.59021616 | 67.30535403 | 0.020517037 | 0.264296485 | 0.284862125 | 0.284862125 | 67.32587107 | 67.59565052 | 67.59021616 | 67.59021616 |
| Aluminum (Al) | Aluminum | Al | No | — | — | — | 18.34336548 | 115.0883981 | 133.0202502 | 133.0202502 | 18.34336548 | 18.53628592 | 18.54288628 | 18.54288628 | — | 0.745638798 | 5.998015494 | 6.742288729 | 6.742288729 | 18.74563878 | 18.99801549 | 19.04258729 | 19.04258729 | — | 0.745638798 | 5.998015494 | 6.742288729 | 6.742288729 | 18.74563878 | 18.99801549 | 19.04258729 | 19.04258729 |
| Calcium (Ca) | Calcium | Ca | No | — | — | — | 6.6729733 | 41.8712744 | 48.39111695 | 48.39111695 | 6.6729733 | 41.8712744 | 48.39111695 | 48.39111695 | — | 0.27125353 | 2.181998679 | 2.453846796 | 2.453846796 | 0.27125353 | 2.181998679 | 2.453846796 | 2.453846796 | — | 0.27125353 | 2.181998679 | 2.453846796 | 2.453846796 | 0.27125353 | 2.181998679 | 2.453846796 | 2.453846796 |
| Cerium (Ce) | Cerium | Ce | No | — | — | — | 0.041233192 | 0.258728192 | 0.299051169 | 0.299051169 | 0.041233192 | 0.258728192 | 0.299051169 | 0.299051169 | — | 0.001676112 | 0.013482861 | 0.015162647 | 0.015162647 | 0.001676112 | 0.013482861 | 0.015162647 | 0.015162647 | — | 0.001676112 | 0.013482861 | 0.015162647 | 0.015162647 | 0.001676112 | 0.013482861 | 0.015162647 | 0.015162647 |
| Cesium (Cs) | Cesium | Cs | No | — | — | — | 0.006440952 | 0.040413396 | 0.046708541 | 0.046708541 | 0.006440952 | 0.040413396 | 0.046708541 | 0.046708541 | — | 0.000261822 | 0.002104613 | 0.002368526 | 0.002368526 | 0.000261822 | 0.002104613 | 0.002368526 | 0.002368526 | — | 0.000261822 | 0.002104613 | 0.002368526 | 0.002368526 | 0.000261822 | 0.002104613 | 0.002368526 | 0.002368526 |
| Gallium (Ga) | Gallium | Ga | No | — | — | — | 0.00735214 | 0.062893743 | 0.072637012 | 0.072637012 | 0.00735214 | 0.062893743 | 0.072637012 | 0.072637012 | — | 0.000318048 | 0.003307438 | 0.003626183 | 0.003626183 | 0.000318048 | 0.003307438 | 0.003626183 | 0.003626183 | — | 0.000318048 | 0.003307438 | 0.003626183 | 0.003626183 | 0.000318048 | 0.003307438 | 0.003626183 | 0.003626183 |
| Germanium (Ge) | Germanium | Ge | No | — | — | — | 0.000121363 | 0.000761522 | 0.0008801 | 0.0008801 | 0.000121363 | 0.000761522 | 0.0008801 | 0.0008801 | — | 4.93335E-06 | 3.96845E-05 | 4.46287E-05 | 4.46287E-05 | 4.93335E-06 | 3.96845E-05 | 4.46287E-05 | 4.46287E-05 | — | 4.93335E-06 | 3.96845E-05 | 4.46287E-05 | 4.46287E-05 | 4.93335E-06 | 3.96845E-05 | 4.46287E-05 | 4.46287E-05 |
| Hafnium (Hf) | Hafnium | Hf | No | — | — | — | 0.000459446 | 0.002882913 | 0.003331816 | 0.003331816 | 0.000459446 | 0.002882913 | 0.003331816 | 0.003331816 | — | 1.86763E-05 | 0.000150235 | 0.000168952 | 0.000168952 | 1.86763E-05 | 0.000150235 | 0.000168952 | 0.000168952 | — | 1.86763E-05 | 0.000150235 | 0.000168952 | 0.000168952 | 1.86763E-05 | 0.000150235 | 0.000168952 | 0.000168952 |
| Indium (In) | Indium | In | No | — | — | — | 2.29037E-05 | 0.000143715 | 0.000166093 | 0.000166093 | 2.29037E-05 | 0.000143715 | 0.000166093 | 0.000166093 | — | 9.31026E-07 | 7.4893E-06 | 8.42237E-06 | 8.42237E-06 | 9.31026E-07 | 7.4893E-06 | 8.42237E-06 | 8.42237E-06 | — | 9.31026E-07 | 7.4893E-06 | 8.42237E-06 | 8.42237E-06 | 9.31026E-07 | 7.4893E-06 | 8.42237E-06 | 8.42237E-06 |
| Lanthanum (La) | Lanthanum | La | No | — | — | — | 0.02109 | 0.164543737 | 0.190403679 | 0.02109 | 0.145437737 | 0.166043679 | 0.166043679 | 0.166043679 | — | 0.000855 | 0.007607535 | 0.008486714 | 0.008486714 | 0.000855 | 0.007607535 | 0.008486714 | 0.008486714 | — | 0.000855 | 0.007607535 | 0.008486714 | 0.008486714 | 0.000855 | 0.007607535 | 0.008486714 | 0.008486714 |
| Luthetium (Lu) | Luthetium | Lu | No | — | — | — | 4.35033E-05 | 0.000272973 | 0.000315478 | 4.35033E-05 | 0.000272973 | 0.000315478 | 0.000315478 | 0.000315478 | — | 1.76839E-06 | 1.42252E-05 | 1.59974E-05 | 1.59974E-05 | 1.76839E-06 | 1.42252E-05 | 1.59974E-05 | 1.59974E-05 | — | 1.76839E-06 | 1.42252E-05 | 1.59974E-05 | 1.59974E-05 | 1.76839E-06 | 1.42252E-05 | 1.59974E-05 | 1.59974E-05 |
| Magnesium (Mg) | Magnesium | Mg | No | — | — | — | 9.899099599 | 62.11442741 | 71.78636342 | 71.78636342 | 9.899099599 | 62.11442741 | 71.78636342 | 71.78636342 | — | 0.402394193 | 3.236911236 | 3.640187475 | 3.640187475 | 0.402394193 | 3.236911236 | 3.640187475 | 3.640187475 | — | 0.402394193 | 3.236911236 | 3.640187475 | 3.640187475 | 0.402394193 | 3.236911236 | 3.640187475 | 3.640187475 |
| Niobium (Nb) | Niobium | Nb | No | — | — | — | 0.000223307 | 0.001614972 | 0.001696247 | 0.001696247 | 0.000223307 | 0.001614972 | 0.001696247 | 0.001696247 | — | 9.50821E-06 | 7.64853E-05 | 8.60143E-05 | 8.60143E-05 | 9.50821E-06 | 7.64853E-05 | 8.60143E-05 | 8.60143E-05 | — | 9.50821E-06 | 7.64853E-05 | 8.60143E-05 | 8.60143E-05 | 9.50821E-06 | 7.64853E-05 | 8.60143E-05 | 8.60143E-05 |
| Potassium (K) | Potassium | K | No | — | — | — | 8.923839891 | 55.99491142 | 64.71396789 | 64.71396789 | 8.923839891 | 55.99491142 | 64.71396789 | 64.71396789 | — | 0.3627503 | 2.918010605 | 3.281556053 | 3.281556053 | 0.3627503 | 2.918010605 | 3.281556053 | 3.281556053 | — | 0.3627503 | 2.918010605 | 3.281556053 | 3.281556053 | 0.3627503 | 2.918010605 | 3.281556053 | 3.281556053 |
| Rubidium (Rb) | Rubidium | Rb | No | — | — | — | 0.041741152 | 0.261915513 | 0.302698793 | 0.302698793 | 0.041741152 | 0.261915513 | 0.302698793 | 0.302698793 | — | 0.00169676 | 0.013648959 | 0.015349438 | 0.015349438 | 0.00169676 | 0.013648959 | 0.015349438 | 0.015349438 | — | 0.00169676 | 0.013648959 | 0.015349438 | 0.015349438 | 0.00169676 | 0.013648959 | 0.015349438 | 0.015349438 |
| Scandium (Sc) | Scandium | Sc | No | — | — | — | 0.002702175 | 0.021878367 | 0.024518532 | 0.024518532 | 0.002702175 | 0.021878367 | 0.024518532 | 0.024518532 | — | 0.000109842 | 0.001150825 | 0.001260908 | 0.001260908 | 0.000109842 | 0.001150825 | 0.001260908 | 0.001260908 | — | 0.000109842 | 0.001150825 | 0.001260908 | 0.001260908 | 0.000109842 | 0.001150825 | 0.001260908 | 0.001260908 |
| Sodium (Na) | Sodium | Na | No | — | — | — | 1.853656416 | 11.63066837 | 13.44169934 | 13.44169934 | 1.853656416 | 11.63066837 | 13.44169934 | 13.44169934 | — | 0.075346647 | 0.606098227 | 0.681610034 | 0.681610034 | 0.075346647 | 0.606098227 | 0.681610034 | 0.681610034 | — | 0.075346647 | 0.606098227 | 0.681610034 | 0.681610034 | 0.075346647 | 0.606098227 | 0.681610034 | 0.681610034 |
| Sulphur (S) | Sulphur | S | No | — | — | — | 10.64864868 | 66.81766444 | 77.22194894 | 77.22194894 | 10.64864868 | 66.81766444 | 77.22194894 | 77.22194894 | — | 0.432863045 | 3.482006641 | 3.91581852 | 3.91581852 | 0.432863045 | 3.482006641 | 3.91581852 | 3.91581852 | — | 0.432863045 | 3.482006641 | 3.91581852 | 3.91581852 | 0.432863045 | 3.482006641 | 3.91581852 | 3.91581852 |
| Tantalum (Ta) | Tantalum | Ta | No | — | — | — | 5.57367E-05 | 0.000349734 | 0.000404191 | 0.000404191 | 5.57367E-05 | 0.000349734 | 0.000404191 | 0.000404191 | — | 2.26567E-06 | 1.82254E-05 | 2.0496E-05 | 2.0496E-05 | 2.26567E-06 | 1.82254E-05 | 2.0496E-05 | 2.0496E-05 | — | 2.26567E-06 | 1.82254E-05 | 2.0496E-05 | 2.0496E-05 | 2.26567E-06 | 1.82254E-05 | 2.0496E-05 | 2.0496E-05 |
| Technetium (Te) | Technetium | Te | No | — | — | — | 9.02963E-05 | 0.000566587 | 0.000654811 | 0.000654811 | 9.02963E-05 | 0.000566587 | 0.000654811 | 0.000654811 | — | 3.67051E-06 | 2.9526E-05 | 3.32046E-05 | 3.32046E-05 | 3.67051E-06 | 2.9526E-05 | 3.32046E-05 | 3.32046E-05 | — | 3.67051E-06 | 2.9526E-05 | 3.32046E-05 | 3.32046E-05 | 3.67051E-06 | 2.9526E-05 | 3.32046E-05 | 3.32046E-05 |
| Terbium (Tb) | Terbium | Tb | No | — | — | — | 0.000227076 | 0.001614972 | 0.001696247 | 0.001696247 | 0.000227076 | 0.001614972 | 0.001696247 | 0.001696247 | — | 1.04622E-05 | 8.41595E-05 | 9.46447E-05 | 9.46447E-05 | 1.04622E-05 | 8.41595E-05 | 9.46447E-05 | 9.46447E-05 | — | 1.04622E-05 | 8.41595E-05 | 9.46447E-05 | 9.46447E-05 | 1.04622E-05 | 8.41595E-05 | 9.46447E-05 | 9.46447E-05 |
| Thorium (Th) | Thorium | Th | No | — | — | — | 0.004743603 | 0.043432916 | 0.048067663 | 0.048067663 | 0.004743603 | 0.043432916 | 0.048067663 | 0.048067663 | — | 0.000192825 | 0.002293081 | 0.002486329 | 0.002486329 | 0.000192825 | 0.002293081 | 0.002486329 | 0.002486329 | — | 0.000192825 | 0.002293081 | 0.002486329 | 0.002486329 | 0.000192825 | 0.002293081 | 0.002486329 | 0.002486329 |
| Tungsten (W) | Tungsten | W | No | — | — | — | 0.000620206 | 0.028331581 | 0.028937555 | 0.028937555 | 0.000620206 | 0.028331581 | 0.028937555 | 0.028937555 | — | 2.52111E-05 | 0.001529527 | 0.001554794 | 0.001554794 | 2.52111E-05 | 0.001529527 | 0.001554794 | 0.001554794 | — | 2.52111E-05 | 0.001529527 | 0.001554794 | 0.001554794 | 2.52111E-05 | 0.001529527 | 0.001554794 | 0.001554794 |
| Ytterbium (Yb) | Ytterbium | Yb | No | — | — | — | 0.000317489 | 0.001992169 | 0.002302372 | 0.002302372 | 0.000317489 | 0.001992169 | 0.002302372 | 0.002302372 | — | 1.29058E-05 | 0.000103816 | 0.00011675 | 0.00011675 | 1.29058E-05 | 0.000103816 | 0.00011675 | 0.00011675 | — | 1.29058E-05 | 0.000103816 | 0.00011675 | 0.00011675 | 1.29058E-05 | 0.000103816 | 0.00011675 | 0.00011675 |
| Yttrium (Y) | Yttrium | Y | No | — | — | — | 0.002371629 | 0.015717306 | 0.018173205 | 0.018173205 | 0.002371629 | 0.015717306 | 0.018173205 | 0.018173205 | — | 0.000115212 | 0.001144724 | 0.001299177 | 0.001299177 | 0.000115212 | 0.001144724 | 0.001299177 | 0.001299177 | — | 0.000115212 | 0.001144724 | 0.001299177 | 0.001299177 | 0.000115212 | 0.001144724 | 0.001299177 | 0.001299177 |
| Zirconium (Zr) | Zirconium | Zr | No | — | — | — | 0.017900007 | 0.112318164 | 0.129807403 | 0.129807403 | 0.017900007 | 0.112318164 | 0.129807403 | 0.129807403 | — | 0.000727628 | 0.005853132 | 0.006582354 | 0.006582354 | 0.000727628 | 0.005853132 | 0.006582354 | 0.006582354 | — | 0.000727628 | 0.005853132 | 0.006582354 | 0.006582354 | 0.000727628 | 0.005853132 | 0.006582354 | 0.006582354 |

**TABLE IV-2: CHEMICAL CONCENTRATIONS IN WASTE ROCK**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | CCME Soil Guidelines | MOECC Table 1 Site Condition Standards | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Antimony (Sb) | Antimony | Sb | Yes | 20 | 1 | — | ***4.694785067*** | ***4.694785067*** | ***4.694785067*** | — | ***4.694785067*** | ***4.694785067*** | ***4.694785067*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | 12 | 11 | — | ***19.46632073*** | ***19.46632073*** | ***19.46632073*** | — | ***19.46632073*** | ***19.46632073*** | ***19.46632073*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Barium (Ba) | Barium | Ba | No | 750 | 210 | — | 80.51475097 | 80.51475097 | 80.51475097 | — | 80.51475097 | 80.51475097 | 80.51475097 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Beryllium (Be) | Beryllium | Be | No | 4 | 2.5 | — | 0.25905618 | 0.25905618 | 0.25905618 | — | 0.25905618 | 0.25905618 | 0.25905618 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Bismuth (Bi) | Bismuth | Bi | No | — | — | — | 0.153217669 | 0.153217669 | 0.153217669 | — | 0.153217669 | 0.153217669 | 0.153217669 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Boron (B) | Boron | B | No | — | 36 | — | 35.27034848 | 35.27034848 | 35.27034848 | — | 35.27034848 | 35.27034848 | 35.27034848 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.4 | 1 | — | ***1.106316045*** | ***1.106316045*** | ***1.106316045*** | — | ***1.106316045*** | ***1.106316045*** | ***1.106316045*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | 64 | 67 | — | 43.82451905 | 43.82451905 | 43.82451905 | — | 43.82451905 | 43.82451905 | 43.82451905 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | Yes | 40 | 19 | — | ***119.8066897*** | ***119.8066897*** | ***119.8066897*** | — | ***119.8066897*** | ***119.8066897*** | ***119.8066897*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | No | 63 | 62 | — | 39.31637869 | 39.31637869 | 39.31637869 | — | 39.31637869 | 39.31637869 | 39.31637869 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Iron (Fe) | Iron | Fe | No | — | — | — | 19972.15886 | 19972.15886 | 19972.15886 | — | 19972.15886 | 19972.15886 | 19972.15886 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | Yes | 70 | 45 | — | ***144.7345915*** | ***144.7345915*** | ***144.7345915*** | — | ***144.7345915*** | ***144.7345915*** | ***144.7345915*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lithium (Li) | Lithium | Li | No | — | — | — | 11.6109513 | 11.6109513 | 11.6109513 | — | 11.6109513 | 11.6109513 | 11.6109513 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Manganese (Mn) | Manganese | Mn | No | — | — | — | 409.5619594 | 409.5619594 | 409.5619594 | — | 409.5619594 | 409.5619594 | 409.5619594 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | Yes | 6.6 | 0.16 | — | ***0.274748573*** | ***0.274748573*** | ***0.274748573*** | — | ***0.274748573*** | ***0.274748573*** | ***0.274748573*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | 5 | 2 | — | 0.940414975 | 0.940414975 | 0.940414975 | — | 0.940414975 | 0.940414975 | 0.940414975 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nickel (Ni) | Nickel | Ni | No | 45 | 37 | — | 21.0085718 | 21.0085718 | 21.0085718 | — | 21.0085718 | 21.0085718 | 21.0085718 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Phosphorus (P) | Phosphorus | P | No | — | — | — | 513.2781666 | 513.2781666 | 513.2781666 | — | 513.2781666 | 513.2781666 | 513.2781666 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Selenium (Se) | Selenium | Se | No | 1 | 1.2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | Yes | 20 | 0.5 | — | ***1.27471562*** | ***1.27471562*** | ***1.27471562*** | — | ***1.27471562*** | ***1.27471562*** | ***1.27471562*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | — | — | — | 18.11017672 | 18.11017672 | 18.11017672 | — | 18.11017672 | 18.11017672 | 18.11017672 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | No | 1 | 1 | — | 0.298506369 | 0.298506369 | 0.298506369 | — | 0.298506369 | 0.298506369 | 0.298506369 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tin (Sn) | Tin | Sn | No | 5 | — | — | 0.865488356 | 0.865488356 | 0.865488356 | — | 0.865488356 | 0.865488356 | 0.865488356 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Titanium (Ti) | Titanium | Ti | No | — | — | — | 750.7171774 | 750.7171774 | 750.7171774 | — | 750.7171774 | 750.7171774 | 750.7171774 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | No | 23 | 1.9 | — | 0.937281635 | 0.937281635 | 0.937281635 | — | 0.937281635 | 0.937281635 | 0.937281635 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vanadium (V) | Vanadium | V | No | 130 | 86 | — | 20.60459634 | 20.60459634 | 20.60459634 | — | 20.60459634 | 20.60459634 | 20.60459634 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | Yes | 200 | 290 | — | ***443.9028405*** | ***443.9028405*** | ***443.9028405*** | — | ***443.9028405*** | ***443.9028405*** | ***443.9028405*** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Aluminum (Al) | Aluminum | Al | No | — | — | — | 16455.14111 | 16455.14111 | 16455.14111 | — | 16455.14111 | 16455.14111 | 16455.14111 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | — | — | — | 5986.162624 | 5986.162624 | 5986.162624 | — | 5986.162624 | 5986.162624 | 5986.162624 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cerium (Ce) | Cerium | Ce | No | — | — | — | 36.98929763 | 36.98929763 | 36.98929763 | — | 36.98929763 | 36.98929763 | 36.98929763 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cesium (Cs) | Cesium | Cs | No | — | — | — | 5.778021695 | 5.778021695 | 5.778021695 | — | 5.778021695 | 5.778021695 | 5.778021695 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Gallium (Ga) | Gallium | Ga | No | — | — | — | 7.018846067 | 7.018846067 | 7.018846067 | — | 7.018846067 | 7.018846067 | 7.018846067 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Germanium (Ge) | Germanium | Ge | No | — | — | — | 0.108871664 | 0.108871664 | 0.108871664 | — | 0.108871664 | 0.108871664 | 0.108871664 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hafnium (Hf) | Hafnium | Hf | No | — | — | — | 0.412158175 | 0.412158175 | 0.412158175 | — | 0.412158175 | 0.412158175 | 0.412158175 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Indium (In) | Indium | In | No | — | — | — | 0.020546372 | 0.020546372 | 0.020546372 | — | 0.020546372 | 0.020546372 | 0.020546372 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lanthanum (La) | Lanthanum | La | No | — | — | — | 18.91937744 | 18.91937744 | 18.91937744 | — | 18.91937744 | 18.91937744 | 18.91937744 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lutheltium (Lu) | Lutheltium | Lu | No | — | — | — | 0.039025783 | 0.039025783 | 0.039025783 | — | 0.039025783 | 0.039025783 | 0.039025783 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Magnesium (Mg) | Magnesium | Mg | No | — | — | — | 8880.24234 | 8880.24234 | 8880.24234 | — | 8880.24234 | 8880.24234 | 8880.24234 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Niobium (Nb) | Niobium | Nb | No | — | — | — | 0.209832115 | 0.209832115 | 0.209832115 | — | 0.209832115 | 0.209832115 | 0.209832115 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Potassium (K) | Potassium | K | No | — | — | — | 8005.360492 | 8005.360492 | 8005.360492 | — | 8005.360492 | 8005.360492 | 8005.360492 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Rubidium (Rb) | Rubidium | Rb | No | — | — | — | 37.44497572 | 37.44497572 | 37.44497572 | — | 37.44497572 | 37.44497572 | 37.44497572 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Scandium (Sc) | Scandium | Sc | No | — | — | — | 2.424055554 | 2.424055554 | 2.424055554 | — | 2.424055554 | 2.424055554 | 2.424055554 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sodium (Na) | Sodium | Na | No | — | — | — | 1662.788612 | 1662.788612 | 1662.788612 | — | 1662.788612 | 1662.788612 | 1662.788612 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sulphur (S) | Sulphur | S | No | — | — | — | 9552.644652 | 9552.644652 | 9552.644652 | — | 9552.644652 | 9552.644652 | 9552.644652 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tantalum (Ta) | Tantalum | Ta | No | — | — | — | 0.05 | 0.05 | 0.05 | — | 0.05 | 0.05 | 0.05 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Technetium (Te) | Technetium | Te | No | — | — | — | 0.0810026 | 0.0810026 | 0.0810026 | — | 0.0810026 | 0.0810026 | 0.0810026 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Terbium (Tb) | Terbium | Tb | No | — | — | — | 0.230885901 | 0.230885901 | 0.230885901 | — | 0.230885901 | 0.230885901 | 0.230885901 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thorium (Th) | Thorium | Th | No | — | — | — | 4.255371727 | 4.255371727 | 4.255371727 | — | 4.255371727 | 4.255371727 | 4.255371727 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tungsten (W) | Tungsten | W | No | — | — | — | 0.556372175 | 0.556372175 | 0.556372175 | — | 0.556372175 | 0.556372175 | 0.556372175 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ytterbium (Yb) | Ytterbium | Yb | No | — | — | — | 0.284812106 | 0.284812106 | 0.284812106 | — | 0.284812106 | 0.284812106 | 0.284812106 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yttrium (Y) | Yttrium | Y | No | — | — | — | 3.357057126 | 3.357057126 | 3.357057126 | — | 3.357057126 | 3.357057126 | 3.357057126 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zirconium (Zr) | Zirconium | Zr | No | — | — | — | 16.05766249 | 16.05766249 | 16.05766249 | — | 16.05766249 | 16.05766249 | 16.05766249 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-3: CHEMICAL CONCENTRATIONS IN SURFACE WATER (WET COVER TSF POST-CLOSURE OPTION)**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Criteria (PWQO, CWQG, HC) | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Aluminum (Al) | Aluminum | Al | Yes | 0.075 | **0.622390971** | 0 | 0 | 0 | 0 | **0.622390971** | **0.622390971** | **0.622390971** | **0.622390971** | **0.622390971** | 0 | 0 | 0 | 0 | **0.622390971** | **0.622390971** | **0.622390971** | **0.622390971** | **0.622390971** | 0 | 0 | 0 | 0 | **0.622390971** | **0.622390971** | **0.622390971** | **0.622390971** |
| Antimony (Sb) | Antimony | Sb | No | 0.006 | 0.000201648 | 0 | 3.4199E-07 | 0 | 1.4159E-07 | 0.000201648 | 0.000201799 | 0.000201648 | 0.000201789 | 0.000201648 | 0 | 3.4199E-07 | 0 | 1.4159E-07 | 0.000201648 | 0.000201799 | 0.000201648 | 0.000201789 | 0.000201648 | 0 | 3.4199E-07 | 0 | 1.4159E-07 | 0.000201648 | 0.000201799 | 0.000201648 | 0.000201789 |
| Arsenic (As) | Arsenic | As | No | 0.01 | 0.002303236 | 0 | 0 | 0 | 1.24662E-08 | 0.002303236 | 0.002303236 | 0.002303236 | 0.002303249 | 0.002303236 | 0 | 0 | 0 | 1.24662E-08 | 0.002303236 | 0.002303236 | 0.002303236 | 0.002303249 | 0.002303236 | 0 | 0 | 0 | 1.24662E-08 | 0.002303236 | 0.002303236 | 0.002303236 | 0.002303249 |
| Beryllium (Be) | Beryllium | Be | No | 0.011 | 0.002148773 | 0.002148773 | 4.33681E-19 | 0 | 0 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 | 0 | 4.33681E-19 | 0 | 0 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 | 4.33681E-19 | 0 | 0 | 0.002148773 | 0.002148773 | 0.002148773 | 0.002148773 |
| Boron (B) | Boron | B | No | 0.2 | 0.100128347 | 0.100128347 | 0 | 0 | 1.38087E-06 | 0.100128347 | 0.100128347 | 0.100128347 | 0.100129728 | 0.100128347 | 0.100128347 | 0 | 0 | 1.38087E-06 | 0.100128347 | 0.100128347 | 0.100128347 | 0.100129728 | 0.100128347 | 0.100128347 | 0 | 0 | 1.38087E-06 | 0.100128347 | 0.100128347 | 0.100128347 | 0.100129728 |
| Cadmium (Cd) | Cadmium | Cd | No | 0.0002 | 8.23619E-05 | 0 | 0 | 0 | 0 | 8.23619E-05 | 8.23519E-05 | 8.23619E-05 | 8.23519E-05 | 8.23619E-05 | 0 | 0 | 0 | 0 | 8.23619E-05 | 8.23519E-05 | 8.23619E-05 | 8.23519E-05 | 8.23619E-05 | 0 | 0 | 0 | 0 | 8.23619E-05 | 8.23519E-05 | 8.23619E-05 | 8.23519E-05 |
| Chloride | Chloride | --- | No | 120 | 6.083324333 | 0 | 0.001237429 | 0 | 0 | 6.083324333 | 6.084561762 | 6.083324333 | 6.082452439 | 6.083324333 | 0 | 0.001237429 | 0 | 0 | 6.083324333 | 6.084561762 | 6.083324333 | 6.082452439 | 6.083324333 | 0 | 0.001237429 | 0 | 0 | 6.083324333 | 6.084561762 | 6.083324333 | 6.082452439 |
| Chromium (Cr) | Chromium | Cr | No | 0.0089 | 0.002302874 | 0 | 0 | 0 | 0 | 0.002302874 | 0.002302874 | 0.002302874 | 0.002302874 | 0.002302874 | 0 | 0 | 0 | 0 | 0.002302874 | 0.002302874 | 0.002302874 | 0.002302874 | 0.002302874 | 0 | 0 | 0 | 0 | 0.002302874 | 0.002302874 | 0.002302874 | 0.002302874 |
| Cobalt (Co) | Cobalt | Co | Yes | 0.0009 | **0.001718311** | 0 | 0 | 0 | 0 | **0.001718311** | **0.00154232** | **0.001718311** | **0.001583646** | **0.001718311** | 0 | 0 | 0 | 0 | **0.001718311** | **0.00154232** | **0.001718311** | **0.001583646** | **0.001718311** | 0 | 0 | 0 | 0 | **0.001718311** | **0.00154232** | **0.001718311** | **0.001583646** |
| Copper (Cu) | Copper | Cu | No | 0.005 | 0.002651316 | 0 | 0 | 0 | 0.000306376 | 0.002651316 | 0.002651316 | 0.002651316 | 0.002957693 | 0.002651316 | 0 | 0 | 0 | 0.000306376 | 0.002651316 | 0.002651316 | 0.002651316 | 0.002957693 | 0.002651316 | 0 | 0 | 0 | 0.000306376 | 0.002651316 | 0.002651316 | 0.002651316 | 0.002957693 |
| Cyanide (CN-) | Cyanide | CN- | No | 0.005 | 0.003621717 | 0.003621717 | 0.003621717 | 0 | 0 | 0.003621717 | 0.003621717 | 0.003621717 | 0.003621663 | 0.003621717 | 0 | 0 | 0 | 0 | 0.003621717 | 0.003621717 | 0.003621717 | 0.003621663 | 0.003621717 | 0 | 0 | 0 | 0 | 0.003621717 | 0.003621717 | 0.003621717 | 0.003621663 |
| Iron (Fe) | Iron | Fe | Yes | 0.3 | **2.453947445** | 0 | 0 | 0 | 0 | **2.453947445** | **2.244145873** | **2.453947445** | **2.296005996** | **2.453947445** | 0 | 0 | 0 | 0 | **2.453947445** | **2.244145873** | **2.453947445** | **2.296005996** | **2.453947445** | 0 | 0 | 0 | 0 | **2.453947445** | **2.244145873** | **2.453947445** | **2.296005996** |
| Lead (Pb) | Lead | Pb | Yes | 0.01 | 0.002062005 | 0.002062005 | 4.33681E-19 | 0 | 0.000119031 | 0.002062005 | 0.002062005 | 0.002062005 | 0.002181036 | 0.002062005 | 0.002062005 | 4.33681E-19 | 0 | 0.000119031 | 0.002062005 | 0.002062005 | 0.002062005 | 0.002181036 | 0.002062005 | 0.002062005 | 4.33681E-19 | 0 | 0.000119031 | 0.002062005 | 0.002062005 | 0.002062005 | 0.002181036 |
| Mercury (Hg) | Mercury | Hg | No | 0.0002 | 7.45826E-05 | 7.45826E-05 | 2.10644E-09 | 0 | 0 | 7.45826E-05 | 7.45848E-05 | 7.45826E-05 | 7.45595E-05 | 7.45826E-05 | 7.45826E-05 | 2.10644E-09 | 0 | 0 | 7.45826E-05 | 7.45848E-05 | 7.45826E-05 | 7.45595E-05 | 7.45826E-05 | 7.45826E-05 | 2.10644E-09 | 0 | 0 | 7.45826E-05 | 7.45848E-05 | 7.45826E-05 | 7.45595E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | No | 0.000004 | **0.286985E-06** | **0.287195E-06** | 2.34045E-10 | 0 | 0 | **0.286985E-06** | **0.287195E-06** | **0.286985E-06** | **0.284319E-06** | **0.286985E-06** | **0.286985E-06** | 2.34045E-10 | 0 | 0 | **0.286985E-06** | **0.287195E-06** | **0.286985E-06** | **0.284319E-06** | **0.286985E-06** | **0.286985E-06** | 2.34045E-10 | 0 | 0 | **0.286985E-06** | **0.287195E-06** | **0.286985E-06** | **0.284319E-06** |
| Molybdenum (Mo) | Molybdenum | Mo | No | 0.04 | 0.002129558 | 0.002129558 | 4.33681E-19 | 0 | 1.41508E-08 | 0.002129558 | 0.002129558 | 0.002129558 | 0.002129572 | 0.002129558 | 0.002129558 | 4.33681E-19 | 0 | 1.41508E-08 | 0.002129558 | 0.002129558 | 0.002129558 | 0.002129572 | 0.002129558 | 0.002129558 | 4.33681E-19 | 0 | 1.41508E-08 | 0.002129558 | 0.002129558 | 0.002129558 | 0.002129572 |
| Nickel (Ni) | Nickel | Ni | No | 0.025 | 0.004206136 | 0.004206136 | 0.001682977 | 0 | 0.006960998 | 0.004206136 | 0.005889114 | 0.004206136 | 0.011167135 | 0.004206136 | 0.004206136 | 0.001682977 | 0 | 0.006960998 | 0.004206136 | 0.005889114 | 0.004206136 | 0.011167135 | 0.004206136 | 0.004206136 | 0.001682977 | 0 | 0.006960998 | 0.004206136 | 0.005889114 | 0.004206136 | 0.011167135 |
| Nitrate | Nitrate | --- | No | 13 | 0.16244986 | 0.16244986 | 2.77556E-17 | 0 | 0 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 2.77556E-17 | 0 | 0 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 | 2.77556E-17 | 0 | 0 | 0.16244986 | 0.16244986 | 0.16244986 | 0.16244986 |
| Phosphorus (P) | Phosphorus | P | Yes | 0.03 | **0.060601919** | 0 | 0 | 0 | 0 | **0.060601919** | **0.060601919** | **0.060601919** | **0.060601919** | **0.060601919** | 0 | 0 | 0 | 0 | **0.060601919** | **0.060601919** | **0.060601919** | **0.060601919** | **0.060601919** | 0 | 0 | 0 | 0 | **0.060601919** | **0.060601919** | **0.060601919** | **0.060601919** |
| Selenium (Se) | Selenium | Se | No | 0.1 | 0.028925933 | 0.025631066 | 0.028925933 | 0 | 0 | 0.028925933 | 0.025631066 | 0.028925933 | 0.024321529 | 0.028925933 | 0 | 0.025631066 | 0 | 0 | 0.028925933 | 0.025631066 | 0.028925933 | 0.024321529 | 0.028925933 | 0 | 0.025631066 | 0 | 0 | 0.028925933 | 0.025631066 | 0.028925933 | 0.024321529 |
| Silver (Ag) | Silver | Ag | Yes | 0.0001 | **0.000209122** | **0.000209122** | 2.71051E-20 | 0 | 0 | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | 2.71051E-20 | 0 | 0 | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** | 2.71051E-20 | 0 | 0 | **0.000209122** | **0.000209122** | **0.000209122** | **0.000209122** |
| Sulphate (SO4(2-) | Sulphate | SO4(2- | No | 20 | 3.227804989 | 3.228082126 | 0.000277137 | 0 | 5.174300961 | 3.227804989 | 3.228082126 | 3.227804989 | 8.40210595 | 3.227804989 | 3.228082126 | 0.000277137 | 0 | 5.174300961 | 3.227804989 | 3.228082126 | 3.227804989 | 8.40210595 | 3.227804989 | 3.228082126 | 0.000277137 | 0 | 5.174300961 | 3.227804989 | 3.228082126 | 3.227804989 | 8.40210595 |
| Thallium (Tl) | Thallium | Tl | Yes | 0.0003 | **0.009624466** | **0.009624466** | 1.0642E-19 | 0 | 0 | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | 1.0642E-19 | 0 | 0 | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** | 1.0642E-19 | 0 | 0 | **0.009624466** | **0.009624466** | **0.009624466** | **0.009624466** |
| Uranium (U) | Uranium | U | Yes | 0.005 | **0.009959984** | **0.009959984** | 1.73472E-18 | 0 | 0 | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | 1.73472E-18 | 0 | 0 | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** | 1.73472E-18 | 0 | 0 | **0.009959984** | **0.009959984** | **0.009959984** | **0.009959984** |
| Vanadium (V) | Vanadium | V | No | 0.006 | 0.002512501 | 0.002512501 | 4.33681E-19 | 0 | 0 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 4.33681E-19 | 0 | 0 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 | 4.33681E-19 | 0 | 0 | 0.002512501 | 0.002512501 | 0.002512501 | 0.002512501 |
| Zinc (Zn) | Zinc | Zn | Yes | 0.03 | 0.014682269 | 0.014682269 | 0 | 0 | 0.00094167 | 0.014682269 | 0.014682269 | 0.014682269 | 0.015623938 | 0.014682269 | 0.014682269 | 0 | 0 | 0.00094167 | 0.014682269 | 0.014682269 | 0.014682269 | 0.015623938 | 0.014682269 | 0.014682269 | 0 | 0 | 0.00094167 | 0.014682269 | 0.014682269 | 0.014682269 | 0.015623938 |

**TABLE IV-4: CHEMICAL CONCENTRATIONS IN TAILINGS STORAGE FACILITY (TSF) SUPERNATANT WATER**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Criteria (PWQO or CWQG) | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** |
| Aluminum (Al) | Aluminum | Al | Yes | 0.075 | — | — | **0.199** | — | — | — | **0.199** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | No | 0.02 | — | — | 0.002 | — | — | — | 0.002 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | No | 0.1 | — | — | 0.018 | — | — | — | 0.018 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Beryllium (Be) | Beryllium | Be | No | 0.011 | — | — | 0.0005 | — | — | — | 0.0005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Boron (B) | Boron | B | No | 0.2 | — | — | 0.02 | — | — | — | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | No | 0.0002 | — | — | **0.002** | — | — | — | **0.002** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chloride | Chloride | — | No | 120 | — | — | 0.78 | — | — | — | 0.78 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | 0.0089 | — | — | 0.0001 | — | — | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | Yes | 0.0009 | — | — | **0.004** | — | — | — | **0.004** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | No | 0.005 | — | — | **0.018** | — | — | — | **0.018** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | No | 0.005 | — | — | **1** | — | — | — | **1** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Iron (Fe) | Iron | Fe | Yes | 0.3 | — | — | **0.358** | — | — | — | **0.358** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | No | 0.005 | — | — | **0.082** | — | — | — | **0.082** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | No | 0.0002 | — | — | **0.0018** | — | — | — | **0.0018** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 0.000004 | — | — | **0.0018** | — | — | — | **0.0018** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | 0.04 | — | — | 0.001 | — | — | — | 0.001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nickel (Ni) | Nickel | Ni | No | 0.025 | — | — | 0.021 | — | — | — | 0.021 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nitrate | Nitrate | — | No | 13 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Phosphorus (P) | Phosphorus | P | Yes | 0.03 | — | — | **0.06** | — | — | — | **0.06** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Selenium (Se) | Selenium | Se | No | 0.1 | — | — | 0.0005 | — | — | — | 0.0005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | Yes | 0.0001 | — | — | 0.00005 | — | — | — | 0.00005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | Yes | 0.0003 | — | — | **0.642** | — | — | — | **0.642** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | Yes | 0.005 | — | — | 0.005 | — | — | — | 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vanadium (V) | Vanadium | V | No | 0.006 | — | — | 0.004 | — | — | — | 0.004 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | Yes | 0.03 | — | — | **0.04** | — | — | — | **0.04** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-5: CHEMICAL CONCENTRATIONS IN PIT LAKE WATER (DRY COVER TSF POST-CLOSURE OPTION)**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Criteria (PWQO or CWQG) | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | | Base Case | Project Only | | | | Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Aluminum (Al) | Aluminum | Al | Yes | 0.075 | — | — | — | — | **0.2735** | — | — | — | **0.2735** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | No | 0.02 | — | — | — | — | 0.001132857 | — | — | — | 0.001132857 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | No | 0.1 | — | — | — | — | 0.001422975 | — | — | — | 0.001422975 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Beryllium (Be) | Beryllium | Be | No | 0.011 | — | — | — | — | 0.001034601 | — | — | — | 0.001034601 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Boron (B) | Boron | B | No | 0.2 | — | — | — | — | 0.051487505 | — | — | — | 0.051487505 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | No | 0.00002 | — | — | — | — | 9.37416E-05 | — | — | — | 9.37416E-05 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chloride | Chloride | — | No | 120 | — | — | — | — | 1.578760898 | — | — | — | 1.578760898 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | 0.0089 | — | — | — | — | 0.000968497 | — | — | — | 0.000968497 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | Yes | 0.0009 | — | — | — | — | 0.0009 | — | — | — | 0.0009 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | No | 0.005 | — | — | — | — | 0.003885798 | — | — | — | 0.003885798 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | No | 0.005 | — | — | — | — | 0.002072804 | — | — | — | 0.002072804 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Iron (Fe) | Iron | Fe | Yes | 0.3 | — | — | — | — | **1.495** | — | — | — | **1.495** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | No | 0.005 | — | — | — | — | 0.002912402 | — | — | — | 0.002912402 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | No | 0.0002 | — | — | — | — | 0.000018 | — | — | — | 0.000018 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 0.000004 | — | — | — | — | 0.000002 | — | — | — | 0.000002 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | 0.04 | — | — | — | — | 0.001009293 | — | — | — | 0.001009293 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nickel (Ni) | Nickel | Ni | No | 0.025 | — | — | — | — | 0.025 | — | — | — | 0.025 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Nitrate | Nitrate | — | No | 13 | — | — | — | — | 0.066745946 | — | — | — | 0.066745946 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Phosphorus (P) | Phosphorus | P | Yes | 0.03 | — | — | — | — | **0.0304** | — | — | — | **0.0304** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Selenium (Se) | Selenium | Se | No | 0.1 | — | — | — | — | 0.000955146 | — | — | — | 0.000955146 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | Yes | 0.0001 | — | — | — | — | 9.95605E-05 | — | — | — | 9.95605E-05 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sulphate (SO42-) | Sulphate | SO42- | NO | 20 | | | | | 20 | — | — | — | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | Yes | 0.0003 | — | — | — | — | 0.0003 | | | | 0.0003 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | Yes | 0.005 | — | — | — | — | 0.005 | — | — | — | 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vanadium (V) | Vanadium | V | No | 0.006 | — | — | — | — | 0.00104014 | — | — | — | 0.00104014 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | Yes | 0.03 | — | — | — | — | 0.03 | — | — | — | 0.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-6: CHEMICAL CONCENTRATIONS IN FISH (MEASURED FISH)**

| | | | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| | | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Parameter and Symbol** | **Parameter** | **Symbol** | **Base Case** | **Project Only** | | | | **Project** | | | | **Base Case** | **Project Only** | | | | **Project** | | | | **Base Case** | **Project Only** | | | | **Project** | | | |
| | | | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Baseline** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** | **Site Preparation and Construction** | **Operations** | **Closure** | **Post-closure** |
| Aluminum (Al) | Aluminum | Al | 2.946883115 | — | — | — | — | — | — | — | — | 2.946883115 | — | — | — | — | — | — | — | — | 2.946883115 | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | 0.003151879 | — | — | — | — | — | — | — | — | 0.003151879 | — | — | — | — | — | — | — | — | 0.003151879 | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 0.042194487 | — | — | — | — | — | — | — | — | 0.042194487 | — | — | — | — | — | — | — | — | 0.042194487 | — | — | — | — | — | — | — | — |
| Barium (Ba) | Barium | Ba | 0.223639474 | — | — | — | — | — | — | — | — | 0.223639474 | — | — | — | — | — | — | — | — | 0.223639474 | — | — | — | — | — | — | — | — |
| Beryllium (Be) | Beryllium | Be | 0.002 | — | — | — | — | — | — | — | — | 0.002 | — | — | — | — | — | — | — | — | 0.002 | — | — | — | — | — | — | — | — |
| Bismuth (Bi) | Bismuth | Bi | 0.002031939 | — | — | — | — | — | — | — | — | 0.002031939 | — | — | — | — | — | — | — | — | 0.002031939 | — | — | — | — | — | — | — | — |
| Boron (B) | Boron | B | 0.2 | — | — | — | — | — | — | — | — | 0.2 | — | — | — | — | — | — | — | — | 0.2 | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | 0.002193255 | — | — | — | — | — | — | — | — | 0.002193255 | — | — | — | — | — | — | — | — | 0.002193255 | — | — | — | — | — | — | — | — |
| Calcium (Ca) | Calcium | Ca | 5973.899639 | — | — | — | — | — | — | — | — | 5973.899639 | — | — | — | — | — | — | — | — | 5973.899639 | — | — | — | — | — | — | — | — |
| Cesium (Cs) | Cesium | Cs | 0.02724787 | — | — | — | — | — | — | — | — | 0.02724787 | — | — | — | — | — | — | — | — | 0.02724787 | — | — | — | — | — | — | — | — |
| Chromium (Cr) | Chromium | Cr | 0.129884453 | — | — | — | — | — | — | — | — | 0.129884453 | — | — | — | — | — | — | — | — | 0.129884453 | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | 0.005753317 | — | — | — | — | — | — | — | — | 0.005753317 | — | — | — | — | — | — | — | — | 0.005753317 | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | 0.199477672 | — | — | — | — | — | — | — | — | 0.199477672 | — | — | — | — | — | — | — | — | 0.199477672 | — | — | — | — | — | — | — | — |
| Gallium (Ga) | Gallium | Ga | 0.004 | — | — | — | — | — | — | — | — | 0.004 | — | — | — | — | — | — | — | — | 0.004 | — | — | — | — | — | — | — | — |
| Iron (Fe) | Iron | Fe | 5.092120154 | — | — | — | — | — | — | — | — | 5.092120154 | — | — | — | — | — | — | — | — | 5.092120154 | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 0.016142412 | — | — | — | — | — | — | — | — | 0.016142412 | — | — | — | — | — | — | — | — | 0.016142412 | — | — | — | — | — | — | — | — |
| Lithium (Li) | Lithium | Li | 0.020843172 | — | — | — | — | — | — | — | — | 0.020843172 | — | — | — | — | — | — | — | — | 0.020843172 | — | — | — | — | — | — | — | — |
| Magnesium (Mg) | Magnesium | Mg | 411.8964352 | — | — | — | — | — | — | — | — | 411.8964352 | — | — | — | — | — | — | — | — | 411.8964352 | — | — | — | — | — | — | — | — |
| Manganese (Mn) | Manganese | Mn | 0.712259123 | — | — | — | — | — | — | — | — | 0.712259123 | — | — | — | — | — | — | — | — | 0.712259123 | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | 0.009926061 | — | — | — | — | — | — | — | — | 0.009926061 | — | — | — | — | — | — | — | — | 0.009926061 | — | — | — | — | — | — | — | — |
| Nickel (Ni) | Nickel | Ni | 0.079089876 | — | — | — | — | — | — | — | — | 0.079089876 | — | — | — | — | — | — | — | — | 0.079089876 | — | — | — | — | — | — | — | — |
| Phosphorus (P) | Phosphorus | Pb | 5181.920586 | — | — | — | — | — | — | — | — | 5181.920586 | — | — | — | — | — | — | — | — | 5181.920586 | — | — | — | — | — | — | — | — |
| Potassium (K) | Potassium | K | 4363.955028 | — | — | — | — | — | — | — | — | 4363.955028 | — | — | — | — | — | — | — | — | 4363.955028 | — | — | — | — | — | — | — | — |
| Rhenium (Re) | Rhenium | Re | 0.002 | — | — | — | — | — | — | — | — | 0.002 | — | — | — | — | — | — | — | — | 0.002 | — | — | — | — | — | — | — | — |
| Rubidium (Rb) | Rubidium | Rb | 10.77249652 | — | — | — | — | — | — | — | — | 10.77249652 | — | — | — | — | — | — | — | — | 10.77249652 | — | — | — | — | — | — | — | — |
| Selenium (Se) | Selenium | Se | 0.213968391 | — | — | — | — | — | — | — | — | 0.213968391 | — | — | — | — | — | — | — | — | 0.213968391 | — | — | — | — | — | — | — | — |
| Sodium (Na) | Sodium | Na | 474.8544401 | — | — | — | — | — | — | — | — | 474.8544401 | — | — | — | — | — | — | — | — | 474.8544401 | — | — | — | — | — | — | — | — |
| Strontium (Sr) | Strontium | Sr | 1.940544266 | — | — | — | — | — | — | — | — | 1.940544266 | — | — | — | — | — | — | — | — | 1.940544266 | — | — | — | — | — | — | — | — |
| Tellurium (Te) | Tellurium | Te | 0.004 | — | — | — | — | — | — | — | — | 0.004 | — | — | — | — | — | — | — | — | 0.004 | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | 0.004371558 | — | — | — | — | — | — | — | — | 0.004371558 | — | — | — | — | — | — | — | — | 0.004371558 | — | — | — | — | — | — | — | — |
| Thorium (Th) | Thorium | Th | 0.002247706 | — | — | — | — | — | — | — | — | 0.002247706 | — | — | — | — | — | — | — | — | 0.002247706 | — | — | — | — | — | — | — | — |
| Tin (Sn) | Tin | Sn | 0.008857668 | — | — | — | — | — | — | — | — | 0.008857668 | — | — | — | — | — | — | — | — | 0.008857668 | — | — | — | — | — | — | — | — |
| Titanium (Ti) | Titanium | Ti | 0.20632776 | — | — | — | — | — | — | — | — | 0.20632776 | — | — | — | — | — | — | — | — | 0.20632776 | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | 0.001751031 | — | — | — | — | — | — | — | — | 0.001751031 | — | — | — | — | — | — | — | — | 0.001751031 | — | — | — | — | — | — | — | — |
| Vanadium (V) | Vanadium | V | 0.013131472 | — | — | — | — | — | — | — | — | 0.013131472 | — | — | — | — | — | — | — | — | 0.013131472 | — | — | — | — | — | — | — | — |
| Yttrium (Y) | Yttrium | Y | 0.002641398 | — | — | — | — | — | — | — | — | 0.002641398 | — | — | — | — | — | — | — | — | 0.002641398 | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | 8.852131742 | — | — | — | — | — | — | — | — | 8.852131742 | — | — | — | — | — | — | — | — | 8.852131742 | — | — | — | — | — | — | — | — |
| Zirconium (Zr) | Zirconium | Zr | 0.04 | — | — | — | — | — | — | — | — | 0.04 | — | — | — | — | — | — | — | — | 0.04 | — | — | — | — | — | — | — | — |

**TABLE IV-7: CHEMICAL CONCENTRATIONS IN FORAGE**

**forage**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Media** | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| **Chemical Property** | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage |
| Wet/Dry Ratio Conversion | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 | 0.2705 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) | Concentration in forage (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.07705 | 0.253587872 | 0.253587872 | 0.253587872 | 0.00333677 | 0.253587872 | 0.253587872 | 0.253587872 | 0.00339677 | 0.02705 | 1.167075E-05 | 0.000161992 | 0.000171909 | 0.000171909 | 0.000171909 | 0.027261671 | 0.027721992 | 0.027722369 | 0.027722369 | 0.027721992 | 0.027722369 | 0.027722369 | 0.027722369 | 0.027722369 | 0.027722369 |
| Arsenic (As) | Arsenic | As | Yes | 0.03275427 | 0.189563031 | 0.189563031 | 0.189563031 | 0.002091861 | 0.189563031 | 0.189563031 | 0.189563031 | 0.034846131 | 0.03275427 | 8.78552E-06 | 9.91443E-05 | 0.000107951 | 0.000107951 | 0.000107951 | 0.032763056 | 0.032853414 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 | 0.032862221 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.012632899 | 0.037407311 | 0.037407311 | 0.037407311 | 0.00052613 | 0.037407311 | 0.037407311 | 0.037407311 | 0.013159029 | 0.012632899 | 1.77056E-06 | 2.5656E-05 | 2.74311E-05 | 2.74311E-05 | 2.74311E-05 | 0.012654669 | 0.012658555 | 0.01266033 | 0.01266033 | 0.012632899 | 1.77056E-06 | 2.5656E-05 | 2.74311E-05 | 2.74311E-05 | 0.012634669 | 0.012658555 | 0.012660333 | 0.012660333 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.06142226 | 0.648154191 | 0.648154191 | 0.648154191 | 0.00520387 | 0.648154191 | 0.648154191 | 0.648154191 | 0.06671613 | 0.06142226 | 2.97372E-05 | 0.000238598 | 0.000268404 | 0.000268404 | 0.000268404 | 0.061451997 | 0.061660858 | 0.061690664 | 0.061690664 | 0.06142226 | 2.97372E-05 | 0.000238598 | 0.000268404 | 0.000268404 | 0.061451997 | 0.061660858 | 0.061690664 | 0.061690664 |
| Copper (Cu) | Copper | Cu | Yes | 2.664929902 | 4.254032174 | 4.254032174 | 4.254032174 | 0.049495836 | 4.254032174 | 4.254032174 | 4.254032174 | 2.714425737 | 2.664929902 | 0.000208693 | 0.002384396 | 0.00255369 | 0.00255369 | 0.00255369 | 2.665138595 | 2.667274297 | 2.667483591 | 2.667483591 | 2.664929902 | 0.000208693 | 0.002384396 | 0.00255369 | 0.00255369 | 2.665138595 | 2.667274297 | 2.667483591 | 2.667483591 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.113514462 | 1.767181815 | 1.767181815 | 1.767181815 | 0.025273196 | 1.767181815 | 1.767181815 | 1.767181815 | 0.138787658 | 0.113514462 | 8.05108E-05 | 0.001239894 | 0.001320588 | 0.001320588 | 0.001320588 | 0.113594973 | 0.114754356 | 0.114853505 | 0.114853505 | 0.113514462 | 8.05108E-05 | 0.001239894 | 0.001320588 | 0.001320588 | 0.113594973 | 0.114754356 | 0.114853505 | 0.114853505 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.010161194 | 0.074319489 | 0.074319489 | 0.074319489 | 0.000603885 | 0.074319489 | 0.074319489 | 0.074319489 | 0.011215824 | 0.010161194 | 3.4311E-06 | 2.71534E-05 | 3.05926E-05 | 3.05926E-05 | 3.05926E-05 | 0.010615371 | 0.010639093 | 0.010642532 | 0.010642532 | 0.010161194 | 3.4311E-06 | 2.7153 4E-05 | 3.05926E-05 | 3.05926E-05 | 0.010615371 | 0.010639093 | 0.010642532 | 0.010642532 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 5.71375E-06 | 6.20659E-05 | 6.20659E-05 | 6.20659E-05 | 1.23683E-06 | 6.20659E-05 | 6.20659E-05 | 6.20659E-05 | 6.95058E-06 | 5.71375E-06 | 2.84657E-09 | 6.24719E-08 | 6.5325E-08 | 6.5325E-08 | 6.5325E-08 | 5.7166E-06 | 5.77623E-06 | 5.77908E-06 | 5.77908E-06 | 5.71375E-06 | 2.84657E-09 | 6.24719E-08 | 6.5325E-08 | 6.5325E-08 | 5.7166E-06 | 5.77623E-06 | 5.77908E-06 | 5.77908E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.00027705 | 0.000322984 | 0.000322984 | 0.000322984 | 1.18662E-05 | 0.000322984 | 0.000322984 | 0.000322984 | 0.000282366 | 0.00027705 | 1.62523E-08 | 6.17479E-07 | 6.33782E-07 | 6.33782E-07 | 6.33782E-07 | 0.000275516 | 0.000271117 | 0.000271134 | 0.000271134 | 0.00027705 | 1.62523E-08 | 6.17479E-07 | 6.33782E-07 | 6.33782E-07 | 0.000275516 | 0.000271117 | 0.000271134 | 0.000271134 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.0027705 | 0.005070694 | 0.005070694 | 0.005070694 | 7.87523E-05 | 0.005070694 | 0.005070694 | 0.005070694 | 0.002783752 | 0.002705 | 2.45938E-07 | 3.87149E-06 | 4.11812E-06 | 4.11812E-06 | 4.11812E-06 | 0.002705246 | 0.002708871 | 0.002709118 | 0.002709118 | 0.0027705 | 2.45938E-07 | 3.87149E-06 | 4.11812E-06 | 4.11812E-06 | 0.002705246 | 0.002708871 | 0.002709118 | 0.002709118 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 4.551524567 | 30.01892959 | 30.01892959 | 30.01892959 | 0.371172252 | 30.01892959 | 30.01892959 | 30.01892959 | 4.922698618 | 4.551524567 | 0.001387465 | 0.01787305 | 0.019263801 | 0.019263801 | 0.019263801 | 4.552912031 | 4.569397616 | 4.570788368 | 4.570788368 | 4.551524567 | 0.001387465 | 0.01787305 | 0.019263801 | 0.019263801 | 4.552912031 | 4.569397616 | 4.570788368 | 4.570788368 |
| Aluminum (Al) | Aluminum | Al | Yes | — | 4451.11567 | 4451.11567 | 4451.11567 | 35.98205937 | 4451.11567 | 4451.11567 | 4451.11567 | 35.98205937 | — | 0.201695295 | 1.622463191 | 1.824600601 | 1.824600601 | 1.824600601 | 0.201695295 | 1.622463191 | 1.824600601 | 1.824600601 | — | 0.201695295 | 1.622463191 | 1.824600601 | 1.824600601 | 0.201695295 | 1.622463191 | 1.824600601 | 1.824600601 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-9: CHEMICAL CONCENTRATIONS IN BERRIES**

**berries**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Media** | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| **Chemical Property** | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries | Soil to Berries |
| Wet/Dry Ratio Conversion | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 | 0.165875 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) | Concentration in berries (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001492875 | 0.014017455 | 0.014017455 | 0.014017455 | 0.00015455 | 0.014017455 | 0.014017455 | 0.014017455 | 0.001677703 | 0.001492875 | 6.44102E-07 | 8.94027E-06 | 9.58587E-06 | 1.02926E-05 | 0.001492875 | 0.001501815 | 0.001502461 | 0.001492875 | 6.44102E-07 | 8.94027E-06 | 9.58587E-06 | 1.02926E-05 | 0.001493519 | 0.001501815 | 0.001502461 | 0.001502461 |
| Arsenic (As) | Arsenic | As | Yes | 0.006137221 | 0.035518735 | 0.035518735 | 0.035518735 | 0.000391955 | 0.035518735 | 0.035518735 | 0.035518735 | 0.006529177 | 0.006137221 | 1.64616E-06 | 1.85768E-05 | 2.02269E-05 | 2.02269E-05 | 0.006138867 | 0.006155798 | 0.006157448 | 0.006137221 | 1.64616E-06 | 1.85768E-05 | 2.02269E-05 | 2.02269E-05 | 0.006138867 | 0.006155798 | 0.006157448 | 0.006157448 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.002478944 | 0.007340407 | 0.007340407 | 0.007340407 | 0.000103242 | 0.007340407 | 0.007340407 | 0.007340407 | 0.002582186 | 0.002478944 | 3.47435E-07 | 5.03446E-06 | 5.38279E-06 | 5.38279E-06 | 0.002479291 | 0.002483978 | 0.002484326 | 0.002478944 | 3.47435E-07 | 5.03446E-06 | 5.38279E-06 | 5.38279E-06 | 0.002479291 | 0.002483978 | 0.002484326 | 0.002484326 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.007533026 | 0.079491739 | 0.079491739 | 0.079491739 | 0.000493257 | 0.079491739 | 0.079491739 | 0.079491739 | 0.008182283 | 0.007533026 | 3.64707E-06 | 2.92624E-05 | 3.29179E-05 | 3.29179E-05 | 0.007536673 | 0.007562288 | 0.007565944 | 0.007533026 | 3.64707E-06 | 2.92624E-05 | 3.29179E-05 | 3.29179E-05 | 0.007536673 | 0.007562288 | 0.007565944 | 0.007565944 |
| Copper (Cu) | Copper | Cu | Yes | 0.571962427 | 0.913024604 | 0.913024604 | 0.913024604 | 0.010623078 | 0.913024604 | 0.913024604 | 0.913024604 | 0.582585505 | 0.571962427 | 4.47908E-05 | 0.000503168 | 0.000548087 | 0.000548087 | 0.572007218 | 0.572465595 | 0.572510515 | 0.571962427 | 4.47908E-05 | 0.000503168 | 0.000548087 | 0.000548087 | 0.572007218 | 0.572465595 | 0.572510515 | 0.572510515 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.001701551 | 0.026408635 | 0.026408635 | 0.026408635 | 0.000378838 | 0.026408635 | 0.026408635 | 0.026408635 | 0.00208039 | 0.001701551 | 1.20684E-06 | 1.85857E-05 | 1.97953E-05 | 1.97953E-05 | 0.001702758 | 0.001720137 | 0.001721346 | 0.001701551 | 1.20684E-06 | 1.85857E-05 | 1.97953E-05 | 1.97953E-05 | 0.001702758 | 0.001720137 | 0.001721346 | 0.001721346 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.000715816 | 0.005013131 | 0.005013131 | 0.005013131 | 4.07343E-05 | 0.005013131 | 0.005013131 | 0.005013131 | 0.000775655 | 0.000715816 | 2.31441E-07 | 1.8316E-06 | 2.06359E-06 | 2.06359E-06 | 0.000716047 | 0.000717647 | 0.000717879 | 0.000717879 | 0.000715816 | 2.31441E-07 | 1.8316E-06 | 2.06359E-06 | 2.06359E-06 | 0.000716047 | 0.000717647 | 0.000717879 | 0.000717879 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.002141191 | 0.02325878 | 0.02325878 | 0.02325878 | 0.000463492 | 0.02325878 | 0.02325878 | 0.02325878 | 0.002604683 | 0.002141191 | 1.06673E-06 | 2.34109E-05 | 2.44801E-05 | 2.44801E-05 | 0.002142258 | 0.002164602 | 0.002165671 | 0.002141191 | 1.06673E-06 | 2.34109E-05 | 2.44801E-05 | 2.44801E-05 | 0.002142258 | 0.002164602 | 0.002165671 | 0.002165671 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000539094 | 0.000643692 | 0.000643692 | 0.000643692 | 2.36487E-05 | 0.000643692 | 0.000643692 | 0.000643692 | 0.000562742 | 0.000539094 | 3.239E-08 | 1.23061E-06 | 1.2631E-06 | 1.2631E-06 | 0.000539126 | 0.000540324 | 0.000540357 | 0.000539094 | 3.239E-08 | 1.23061E-06 | 1.2631E-06 | 1.2631E-06 | 0.000539126 | 0.000540324 | 0.000540357 | 0.000540357 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.000107819 | 0.000202113 | 0.000202113 | 0.000202113 | 3.13899E-06 | 0.000202113 | 0.000202113 | 0.000202113 | 0.000110958 | 0.000107819 | 9.80286E-09 | 1.54314E-07 | 1.64144E-07 | 1.64144E-07 | 0.000107829 | 0.000107973 | 0.000107983 | 0.000107819 | 9.80286E-09 | 1.54314E-07 | 1.64144E-07 | 1.64144E-07 | 0.000107829 | 0.000107973 | 0.000107983 | 0.000107983 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 1.228070316 | 8.099562204 | 8.099562204 | 8.099562204 | 0.100147899 | 8.099562204 | 8.099562204 | 8.099562204 | 1.328218215 | 1.228070316 | 0.000374359 | 0.00482242 | 0.005197666 | 0.005197666 | 1.228444675 | 1.232892736 | 1.233267982 | 1.228070316 | 0.000374359 | 0.00482242 | 0.005197666 | 0.005197666 | 1.228444675 | 1.232892736 | 1.233267982 | 1.233267982 |
| Aluminum (Al) | Aluminum | Al | Yes | — | 300.2446185 | 300.2446185 | 300.2446185 | 2.427126251 | 300.2446185 | 300.2446185 | 300.2446185 | 2.427126251 | — | 0.013605112 | 0.10944129 | 0.123076224 | 0.123076224 | 0.013605112 | 0.10944129 | 0.123076224 | — | 0.013605112 | 0.10944129 | 0.123076224 | 0.123076224 | 0.013605112 | 0.10944129 | 0.123076224 | 0.123076224 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-9: CHEMICAL CONCENTRATIONS IN MACROPHYTES (e.g. Wild Rice)**

**macrophytes**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Base | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project |
| Phase | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Media | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) |
| Chemical Property | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes | Water to Macrophytes |
| Wet/Dry Ratio Conversion | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 | 0.1462083 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) | Concentration in macrophytes (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.050149472 | 0 | 8.50029E-06 | 0 | 3.50693E-06 | 0 | 0.050157972 | 0.050149472 | 0.050152979 | 0.050149472 | 0 | 8.50029E-06 | 0 | 3.50693E-06 | 0.050149472 | 0.050152979 | 0.050149472 | 0.050149472 | 0 | 8.50029E-06 | 0 | 3.50693E-06 | 0.050149472 | 0.050157972 | 0.050149472 | 0.050152979 |
| Arsenic (As) | Arsenic | As | Yes | 0.012123081 | 0 | 0 | 0 | 6.56158E-08 | 0 | 0.012123081 | 0.012123081 | 0.012123146 | 0.012123081 | 0 | 0 | 0 | 6.56158E-08 | 0.012123081 | 0.012123081 | 0.012123081 | 0.012123146 | 0.012123081 | 0 | 0 | 0 | 6.56158E-08 | 0.012123081 | 0.012123081 | 0.012123081 | 0.012123146 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.228770012 | 0 | 0 | 0 | 0 | 0 | 0.228770012 | 0.228770012 | 0.228770012 | 0.228770012 | 0 | 0 | 0 | 0 | 0.228770012 | 0.228770012 | 0.228770012 | 0.228770012 | 0.228770012 | 0 | 0 | 0 | 0 | 0.228770012 | 0.228770012 | 0.228770012 | 0.228770012 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 6.029551589 | 0 | 0 | 0 | 0 | 0 | 5.411998476 | 6.029551589 | 5.557011479 | 6.029551589 | 0 | 0 | 0 | 0 | 6.029551589 | 5.411998476 | 6.029551589 | 5.557011479 | 6.029551589 | 0 | 0 | 0 | 0 | 6.029551589 | 5.411998476 | 6.029551589 | 5.557011479 |
| Copper (Cu) | Copper | Cu | Yes | 1.550577745 | 0 | 0 | 0 | 0.179179088 | 0 | 1.550577745 | 1.550577745 | 1.729756833 | 1.550577745 | 0 | 0 | 0 | 0.179179088 | 1.550577745 | 1.550577745 | 1.550577745 | 1.729756833 | 1.550577745 | 0 | 0 | 0 | 0.179179088 | 1.550577745 | 1.550577745 | 1.550577745 | 1.729756833 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.025039387 | 0 | 2.15586E-16 | 0 | 0.05917135 | 0 | 1.025039387 | 1.025039387 | 1.084210737 | 1.025039387 | 0 | 2.15586E-16 | 0 | 0.05917135 | 1.025039387 | 1.025039387 | 1.025039387 | 1.084210737 | 1.025039387 | 0 | 2.15586E-16 | 0 | 0.05917135 | 1.025039387 | 1.025039387 | 1.025039387 | 1.084210737 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.017447363 | 0 | 4.92765E-07 | 0 | 0 | 0 | 0.017447856 | 0.017447363 | 0.017441953 | 0.017447363 | 0 | 4.92765E-07 | 0 | 0 | 0.017447363 | 0.017447856 | 0.017447363 | 0.017441953 | 0.017447363 | 0 | 4.92765E-07 | 0 | 0 | 0.017447363 | 0.017447856 | 0.017447363 | 0.017441953 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 0.001938996 | 0 | 5.47517E-08 | 0 | 0 | 0 | 0.001938651 | 0.001938996 | 0.001937995 | 0.001938596 | 0 | 5.47517E-08 | 0 | 0 | 0.001938596 | 0.001938651 | 0.001938596 | 0.001937995 | 0.001938596 | 0 | 5.47517E-08 | 0 | 0 | 0.001938596 | 0.001938651 | 0.001938596 | 0.001937995 |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.048920527 | 0 | 6.34077E-18 | 0 | 0 | 0 | 0.048920527 | 0.048920527 | 0.048920527 | 0.048920527 | 0 | 6.34077E-18 | 0 | 0 | 0.048920527 | 0.048920527 | 0.048920527 | 0.048920527 | 0.048920527 | 0 | 6.34077E-18 | 0 | 0 | 0.048920527 | 0.048920527 | 0.048920527 | 0.048920527 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.147019222 | 0 | 2.53631E-17 | 0 | 0 | 0 | 0.147019222 | 0.147019222 | 0.147019222 | 0.147019222 | 0 | 2.53631E-17 | 0 | 0 | 0.147019222 | 0.147019222 | 0.147019222 | 0.147019222 | 0.147019222 | 0 | 2.53631E-17 | 0 | 0 | 0.147019222 | 0.147019222 | 0.147019222 | 0.147019222 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 2.329971767 | 0 | 4.05681E-16 | 0 | 0 | 0 | 2.329971767 | 2.329971767 | 2.329971767 | 2.329971767 | 0 | 4.05681E-16 | 0 | 0 | 2.329971767 | 2.329971767 | 2.329971767 | 2.329971767 | 2.329971767 | 0 | 4.05681E-16 | 0 | 0 | 2.329971767 | 2.329971767 | 2.329971767 | 2.329971767 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 1.717335633 | 0 | 0 | 0 | 0.110143939 | 0 | 1.717335633 | 1.717335633 | 1.827479573 | 1.717335633 | 0 | 0 | 0 | 0.110143939 | 1.717335633 | 1.717335633 | 1.717335633 | 1.827479573 | 1.717335633 | 0 | 0 | 0 | 0.110143939 | 1.717335633 | 1.717335633 | 1.717335633 | 1.827479573 |
| Aluminum (Al) | Aluminum | Al | Yes | 145.5979613 | 0 | 0 | 0 | 0 | 0 | 145.5979613 | 145.5979613 | 145.5979613 | 145.5979613 | 0 | 0 | 0 | 0 | 145.5979613 | 145.5979613 | 145.5979613 | 145.5979613 | 145.5979613 | 0 | 0 | 0 | 0 | 145.5979613 | 145.5979613 | 145.5979613 | 145.5979613 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.847240157 | 0 | 0 | 0 | 0 | 0 | 0.847240157 | 0.847240157 | 0.847227435 | 0.847240157 | 0 | 0 | 0 | 0 | 0.847240157 | 0.847240157 | 0.847240157 | 0.847227435 | 0.847240157 | 0 | 0 | 0 | 0 | 0.847240157 | 0.847240157 | 0.847240157 | 0.847227435 |

**TABLE IV-10: CHEMICAL CONCENTRATIONS IN MEDICINAL PANT (e.g Labrador Tea)**

**Labrador Tea**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Media | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Chemical Property | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage | Plant-Soil BCF for above-ground forage |
| Wet/Dry Ratio Conversion | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 | 0.4993636 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) | Concentration in Labrador Tea (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.04093636 | 0.468800954 | 0.468800954 | 0.468800954 | 0.009159931 | 0.468800954 | 0.468800954 | 0.468800954 | 0.468800954 | 0.056096291 | 0.04993636 | 2.1545E-05 | 0.00029905 | 0.000183028 | 0.000199286 | 0.000199286 | 0.060483096 | 0.060649905 | 0.060566163 | 0.060566163 | 0.060466877 | 1.62187E-05 | 0.000183028 | 0.000199286 | 0.000199286 | 0.060483096 | 0.060649905 | 0.060566163 | 0.060566163 |
| Arsenic (As) | Arsenic | As | Yes | 0.060466877 | 0.349947792 | 0.349947792 | 0.349947792 | 0.003861735 | 0.349947792 | 0.349947792 | 0.349947792 | 0.349947792 | 0.064328612 | 0.060466877 | 1.62187E-05 | 0.00029905 | 0.000183028 | 0.000199286 | 0.000199286 | 0.060483096 | 0.060649905 | 0.060566163 | 0.060566163 | 0.060466877 | 1.62187E-05 | 0.000183028 | 0.000199286 | 0.000199286 | 0.060483096 | 0.060649905 | 0.060566163 | 0.060566163 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.023321293 | 0.069056745 | 0.069056745 | 0.069056745 | 0.000971276 | 0.069056745 | 0.069056745 | 0.069056745 | 0.069056745 | 0.024292569 | 0.023321293 | 3.26859E-06 | 4.7363E-05 | 5.064E-05 | 5.064E-05 | 5.064E-05 | 0.023324561 | 0.023384656 | 0.023371933 | 0.023371933 | 0.023321293 | 3.26859E-06 | 4.7363E-05 | 5.064E-05 | 5.064E-05 | 0.023324561 | 0.023368656 | 0.023371933 | 0.023371933 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.11339017 | 1.196541997 | 1.196541997 | 1.196541997 | 0.009772887 | 1.196541997 | 1.196541997 | 1.196541997 | 1.196541997 | 0.123163057 | 0.113390017 | 5.48971E-05 | 0.00044047 | 0.000495494 | 0.000495494 | 0.000495494 | 0.113445067 | 0.113830364 | 0.113685664 | 0.113685664 | 0.113390017 | 5.48971E-05 | 0.00044047 | 0.000495494 | 0.000495494 | 0.113445067 | 0.113830364 | 0.113685664 | 0.113685664 |
| Copper (Cu) | Copper | Cu | Yes | 4.919663547 | 7.853267361 | 7.853267361 | 7.853267361 | 0.091373082 | 7.853267361 | 7.853267361 | 7.853267361 | 7.853267361 | 5.011036829 | 4.919663547 | 0.000385263 | 0.004327933 | 0.004714306 | 0.004714306 | 0.004714306 | 4.92034881 | 4.929399148 | 4.924377853 | 4.924377853 | 4.919663547 | 0.000385263 | 0.004327933 | 0.004714306 | 0.004714306 | 4.92034881 | 4.929399148 | 4.924377853 | 4.924377853 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.209556342 | 3.252383399 | 3.252383399 | 3.252383399 | 0.046656244 | 3.252383399 | 3.252383399 | 3.252383399 | 3.252383399 | 0.256217586 | 0.209556342 | 0.000148629 | 0.002288939 | 0.002437906 | 0.002437906 | 0.002437906 | 0.209704971 | 0.211845281 | 0.211994247 | 0.211994247 | 0.209556342 | 0.000148629 | 0.002288939 | 0.002437906 | 0.002437906 | 0.209704971 | 0.211845281 | 0.211994247 | 0.211994247 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.019590449 | 0.137199437 | 0.137199437 | 0.137199437 | 0.001114817 | 0.137199437 | 0.137199437 | 0.137199437 | 0.137199437 | 0.020705266 | 0.019590449 | 6.33407E-06 | 5.01273E-05 | 5.64763E-05 | 5.64763E-05 | 5.64763E-05 | 0.019596783 | 0.019640576 | 0.019646925 | 0.019646925 | 0.019590449 | 6.33407E-06 | 5.01273E-05 | 5.64763E-05 | 5.64763E-05 | 0.019596783 | 0.019640576 | 0.019646925 | 0.019646925 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 1.0548E-05 | 0.000114578 | 0.000114578 | 0.000114578 | 2.28328E-06 | 0.000114578 | 0.000114578 | 0.000114578 | 0.000114578 | 1.28313E-05 | 1.0548E-05 | 5.25498E-09 | 1.15328E-07 | 1.20595E-07 | 1.20595E-07 | 1.20595E-07 | 1.05533E-05 | 1.06634E-05 | 1.06686E-05 | 1.06686E-05 | 1.0548E-05 | 5.25498E-09 | 1.15328E-07 | 1.20595E-07 | 1.20595E-07 | 1.05533E-05 | 1.06634E-05 | 1.06686E-05 | 1.06686E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.004499364 | 0.000596253 | 0.000596253 | 0.000596253 | 2.19058E-05 | 0.000596253 | 0.000596253 | 0.000596253 | 0.000596253 | 0.000521269 | 0.004499364 | 3.00029E-08 | 1.13991E-06 | 1.17001E-06 | 1.17001E-06 | 1.17001E-06 | 0.004499394 | 0.005005504 | 0.005005534 | 0.005005534 | 0.004499364 | 3.00029E-08 | 1.13991E-06 | 1.17001E-06 | 1.17001E-06 | 0.004499394 | 0.005005504 | 0.005005534 | 0.005005534 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.004993636 | 0.009360887 | 0.009360887 | 0.009360887 | 0.000143383 | 0.009360887 | 0.009360887 | 0.009360887 | 0.009360887 | 0.005139019 | 0.004993636 | 4.5402E-07 | 7.14707E-06 | 7.60236E-06 | 7.60236E-06 | 7.60236E-06 | 0.004993409 | 0.005000783 | 0.005001238 | 0.005001238 | 0.004993636 | 4.5402E-07 | 7.14707E-06 | 7.60236E-06 | 7.60236E-06 | 0.004994409 | 0.005000783 | 0.005001238 | 0.005001238 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 8.402465972 | 55.41723012 | 55.41723012 | 55.41723012 | 0.685212244 | 55.41723012 | 55.41723012 | 55.41723012 | 55.41723012 | 9.087673216 | 8.402460972 | 0.002561365 | 0.032995011 | 0.035952444 | 0.035952444 | 0.035952444 | 8.405022338 | 8.435455983 | 8.438023417 | 8.438023417 | 8.402465972 | 0.002561365 | 0.032995011 | 0.035952444 | 0.035952444 | 8.405022338 | 8.435455983 | 8.438023417 | 8.438023417 |
| Aluminum (Al) | Aluminum | Al | Yes | — | 8217.098503 | 8217.098503 | 8217.098503 | 66.42562182 | 8217.098503 | 8217.098503 | 8217.098503 | 8217.098503 | 66.42562182 | — | 0.372344875 | 2.99519061 | 3.368351663 | 3.368351663 | 3.368351663 | 0.372344875 | 2.99519061 | 3.368351663 | 3.368351663 | — | 0.372344875 | 2.99519061 | 3.368351663 | 3.368351663 | 0.372344875 | 2.99519061 | 3.368351663 | 3.368351663 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-11: CHEMICAL CONCENTRATIONS IN ROOT VEGETABLE**

**root vegetable**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| Phase | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Media | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Chemical Property | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for below-ground produce |
| Wet/Dry Ratio Conversion | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) | Concentration in root vegetable (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.00405 | 0.038027759 | 0.038027759 | 0.038027759 | 0.00049999 | 0.038027759 | 0.038027759 | 0.038027759 | 0.00454959 | 0.00405 | 1.74737E-06 | 2.4253E-05 | 2.60054E-05 | 2.60054E-05 | 0.00405 | 0.00405 | 0.00405 | 1.74737E-06 | 2.4253E-05 | 2.60054E-05 | 2.60054E-05 | 0.00405 | 1.74737E-06 | 2.4253E-05 | 2.60054E-05 | 2.60054E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0.007265272 | 0.04204723 | 0.04204723 | 0.04204723 | 0.00046399 | 0.04204723 | 0.04204723 | 0.04204723 | 0.00729271 | 0.007265272 | 1.94873E-06 | 2.19914E-05 | 2.39447E-05 | 2.39447E-05 | 0.04204723 | 0.04204723 | 0.04204723 | 1.94873E-06 | 2.19914E-05 | 2.39447E-05 | 2.39447E-05 | 0.04204723 | 1.94873E-06 | 2.19914E-05 | 2.39447E-05 | 2.39447E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.006456088 | 0.019117141 | 0.019117141 | 0.019117141 | 0.000268881 | 0.019117141 | 0.019117141 | 0.019117141 | 0.006724969 | 0.006456088 | 9.04851E-07 | 1.31115E-05 | 1.40188E-05 | 1.40188E-05 | 0.006456093 | 0.006456093 | 0.0064692 | 0.006470107 | 0.006470107 | 0.006456088 | 9.04851E-07 | 1.31116E-05 | 1.40188E-05 | 1.40188E-05 | 0.006456993 | 0.0064692 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.021458054 | 0.226434643 | 0.226434643 | 0.226434643 | 0.00184943 | 0.226434643 | 0.226434643 | 0.226434643 | 0.023307483 | 0.021458054 | 1.03888E-05 | 8.3355E-05 | 9.37677E-05 | 9.37677E-05 | 0.021458054 | 0.021458054 | 0.021541409 | 0.021581822 | 0.021581822 | 0.021458054 | 1.03888E-05 | 8.3356E-06 | 9.37677E-05 | 9.37677E-05 | 0.021458443 | 0.021541409 |
| Copper (Cu) | Copper | Cu | Yes | 1.66250248 | 2.653855562 | 2.653855562 | 2.653855562 | 0.030877716 | 2.653855562 | 2.653855562 | 2.653855562 | 1.693380197 | 1.66250248 | 0.000130192 | 0.001462539 | 0.001593106 | 0.001593106 | 1.662632672 | 1.663965019 | 1.663965019 | 1.6640955886 | 1.6640955886 | 1.66250248 | 0.000130192 | 0.001462539 | 0.001593106 | 0.001593106 | 1.662632672 | 1.663965019 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.022660928 | 0.351705057 | 0.351705057 | 0.351705057 | 0.005045296 | 0.351705057 | 0.351705057 | 0.351705057 | 0.027706224 | 0.022660928 | 1.60724E-05 | 0.00024752 | 0.000263629 | 0.000263629 | 0.022677 | 0.022908448 | 0.022924557 | 0.022924557 | 0.022924557 | 0.022660928 | 1.60724E-05 | 0.00024752 | 0.000263629 | 0.000263629 | 0.0226777 | 0.022908448 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.001059232 | 0.007418211 | 0.007418211 | 0.007418211 | 6.02768E-05 | 0.007418211 | 0.007418211 | 0.007418211 | 0.001119509 | 0.001059232 | 3.42476E-07 | 2.71032E-06 | 3.0536E-06 | 3.0536E-06 | 0.001059575 | 0.001061943 | 0.001062286 | 0.001062286 | 0.001059232 | 3.42476E-07 | 2.71032E-06 | 3.0536E-06 | 3.0536E-06 | 0.001059575 | 0.001061943 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.001916906 | 0.02082248 | 0.02082248 | 0.02082248 | 0.000414943 | 0.02082248 | 0.02082248 | 0.02082248 | 0.002331849 | 0.001916906 | 9.54990E-07 | 2.09587E-05 | 2.19159E-05 | 2.19159E-05 | 0.001917861 | 0.001937865 | 0.001938822 | 0.001938822 | 0.001916906 | 9.54990E-07 | 2.09587E-05 | 2.19159E-05 | 2.19159E-05 | 0.001917861 | 0.001937865 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000027 | 3.22387E-05 | 3.22387E-05 | 3.22387E-05 | 1.18442E-06 | 3.22387E-05 | 3.22387E-05 | 3.22387E-05 | 2.81844E-05 | 0.000027 | 1.62222E-09 | 6.16338E-08 | 6.3261E-08 | 6.3261E-08 | 2.70016E-05 | 2.70616E-05 | 2.70633E-05 | 2.70633E-05 | 2.70633E-05 | 0.000027 | 1.62222E-09 | 6.16338E-08 | 6.32661E-08 | 6.32661E-08 | 2.70016E-05 | 2.70616E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.00816675 | 0.015310496 | 0.015310496 | 0.015310496 | 0.000233785 | 0.015310496 | 0.015310496 | 0.015310496 | 0.008405285 | 0.00816675 | 7.42588E-07 | 1.16896E-05 | 1.24343E-05 | 1.24343E-05 | 0.008168243 | 0.00817919 | 0.008179934 | 0.008179934 | 0.00817919 | 0.00816675 | 7.42588E-07 | 1.16896E-05 | 1.24343E-05 | 1.24343E-05 | 0.008168243 | 0.00817919 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 16.35520103 | 107.8683902 | 107.8683902 | 107.8683902 | 1.333750199 | 107.8683902 | 107.8683902 | 107.8683902 | 17.68895123 | 16.35520103 | 0.00498564 | 0.064224046 | 0.069221496 | 0.069221496 | 16.36018667 | 16.41942508 | 16.42442253 | 16.42442253 | 16.35520103 | 0.00498564 | 0.064224046 | 0.069221496 | 0.069221496 | 16.36018667 | 16.41942508 |
| Aluminum (Al) | Aluminum | Al | Yes | — | 2.887877265 | 2.887877265 | 2.887877265 | 0.023345107 | 2.887877265 | 2.887877265 | 2.887877265 | 0.023345107 | — | 0.000133096 | 0.001526562 | 0.001183798 | 0.001183798 | 0.000133096 | 0.001526562 | 0.001183798 | 0.001183798 | — | 0.000133096 | 0.001526562 | 0.001183798 | 0.001183798 | 0.000133096 | 0.001526562 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-12: CHEMICAL CONCENTRATIONS IN SOIL INVERTEBRATE (e.g. earthworm)**

**soil invertebrate**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Site Preparation and Construction | Project Only | Project | Project | Project | Project | Project | Project | Base | Site Preparation and Construction | Project Only | Project | Project | Project | Project | Project | Project |
| Phase | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| Media | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Waste Rock | Waste Rock | Waste Rock | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Chemical Property | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate | Soil to Soil Invertebrate |
| Wet/Dry Ratio Conversion | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) | Concentration in soil invertebrate (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.05 | 0.469478507 | 0.469478507 | 0.469478507 | 0.006167781 | 0.469478507 | 0.469478507 | 0.469478507 | 0.056167781 | 0.05 | 2.15725E-05 | 0.000209431 | 0.050219054 | 0.050219054 | 0.050219054 | 0.05 | 2.15725E-05 | 0.000209431 | 0.050219054 | 0.050219054 | 0.050219054 | 0.050219054 | 0.050219054 | 0.050219054 |
| Arsenic (As) | Arsenic | As | Yes | 0.086779643 | 0.502231075 | 0.502231075 | 0.502231075 | 0.005542207 | 0.502231075 | 0.502231075 | 0.502231075 | 0.092321851 | 0.086779643 | 2.32765E-05 | 0.000262674 | 0.000286007 | 0.000286007 | 0.000286007 | 0.086780292 | 0.087042318 | 0.08706565 | 0.08706565 | 0.086779643 | 2.32765E-05 | 0.000262674 | 0.000286007 | 0.000286007 | 0.086780292 | 0.087042318 | 0.08706565 | 0.08706565 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.639070549 | 1.892353595 | 1.892353595 | 1.892353595 | 0.026615758 | 1.892353595 | 1.892353595 | 1.892353595 | 0.665686307 | 0.639070549 | 8.95687E-05 | 0.001297882 | 0.001387681 | 0.001387681 | 0.001387681 | 0.639160118 | 0.640368431 | 0.64045823 | 0.64045823 | 0.639070549 | 8.95687E-05 | 0.001297882 | 0.001387681 | 0.001387681 | 0.639160118 | 0.640368431 | 0.64045823 | 0.64045823 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.138512306 | 1.461641614 | 1.461641614 | 1.461641614 | 0.011938116 | 1.461641614 | 1.461641614 | 1.461641614 | 0.150450422 | 0.138512306 | 6.70596E-05 | 0.000638059 | 0.000605273 | 0.000605273 | 0.000605273 | 0.138717579 | 0.139003364 | 0.139117575 | 0.139117575 | 0.138512306 | 6.70596E-05 | 0.000638059 | 0.000605273 | 0.000605273 | 0.138579366 | 0.139003364 | 0.139117575 | 0.139117579 |
| Copper (Cu) | Copper | Cu | Yes | 1.857076845 | 2.964454953 | 2.964454953 | 2.964454953 | 0.034491553 | 2.964454953 | 2.964454953 | 2.964454953 | 1.891568397 | 1.857076845 | 0.000145429 | 0.00163371 | 0.001779558 | 0.001779558 | 0.001779558 | 1.857222274 | 1.858715555 | 1.858856403 | 1.858856403 | 1.857076845 | 0.000145429 | 0.00163371 | 0.001779558 | 0.001779558 | 1.857222274 | 1.858715555 | 1.858856403 | 1.858856403 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 3.116576972 | 48.37030047 | 48.37030047 | 48.37030047 | 0.693883923 | 48.37030047 | 48.37030047 | 48.37030047 | 3.810460894 | 3.116576972 | 0.002210452 | 0.034041708 | 0.036257173 | 0.036257173 | 0.036257173 | 3.116787423 | 3.150631868 | 3.152834145 | 3.152834145 | 3.116576972 | 0.002210452 | 0.034041708 | 0.036257173 | 0.036257173 | 3.116787423 | 3.150631868 | 3.152834145 | 3.152834145 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.020521648 | 0.143720979 | 0.143720979 | 0.143720979 | 0.001167808 | 0.143720979 | 0.143720979 | 0.143720979 | 0.021689456 | 0.020521648 | 6.63515E-06 | 5.251E-05 | 5.91608E-05 | 5.91608E-05 | 5.91608E-05 | 0.020528283 | 0.020574158 | 0.020580808 | 0.020580808 | 0.020521648 | 6.63515E-06 | 5.251E-05 | 5.91608E-05 | 5.91608E-05 | 0.020528283 | 0.020574158 | 0.020580808 | 0.020580808 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.023998002 | 0.260679344 | 0.260679344 | 0.260679344 | 0.005194721 | 0.260679344 | 0.260679344 | 0.260679344 | 0.029192724 | 0.023998002 | 1.19557E-05 | 0.000262384 | 0.000274368 | 0.000274368 | 0.000274368 | 0.024009958 | 0.024260387 | 0.02427237 | 0.02427237 | 0.023998002 | 1.19557E-05 | 0.000262384 | 0.000274368 | 0.000274368 | 0.024009958 | 0.024260387 | 0.02427237 | 0.02427237 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.051125 | 0.061044553 | 0.061044553 | 0.061044553 | 0.002242725 | 0.061044553 | 0.061044553 | 0.061044553 | 0.053387725 | 0.051125 | 3.07171E-06 | 0.000116705 | 0.000119786 | 0.000119786 | 0.000119786 | 0.051128072 | 0.051241705 | 0.051244786 | 0.051244786 | 0.051125 | 3.07171E-06 | 0.000116705 | 0.000119786 | 0.000119786 | 0.051128072 | 0.051241705 | 0.051244786 | 0.051244786 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.10225 | 0.191674094 | 0.191674094 | 0.191674094 | 0.009378866 | 0.191674094 | 0.191674094 | 0.191674094 | 0.105226866 | 0.10225 | 9.29665E-06 | 0.000146344 | 0.000155666 | 0.000155666 | 0.000155666 | 0.102259297 | 0.102396344 | 0.102456666 | 0.102456666 | 0.10225 | 9.29665E-06 | 0.000146344 | 0.000155666 | 0.000155666 | 0.102259297 | 0.102396344 | 0.102456666 | 0.102456666 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 9.557360273 | 63.03420335 | 63.03420335 | 63.03420335 | 0.779393312 | 63.03420335 | 63.03420335 | 63.03420335 | 10.33675339 | 9.557360273 | 0.002913419 | 0.037530101 | 0.040450422 | 0.040450422 | 0.040450422 | 9.560273692 | 9.594890374 | 9.597810595 | 9.597810595 | 9.557360273 | 0.002913419 | 0.037530101 | 0.040450422 | 0.040450422 | 9.560273692 | 9.594890374 | 9.597810595 | 9.597810595 |
| Aluminum (Al) | Aluminum | Al | Yes | — | 87.21224788 | 87.21224788 | 87.21224788 | 0.705008927 | 87.21224788 | 87.21224788 | 87.21224788 | 0.705008927 | — | 0.003951886 | 0.031789482 | 0.03575003 | 0.03575003 | 0.03575003 | 0.003951886 | 0.031789482 | 0.03575003 | 0.03575003 | — | 0.003951886 | 0.031789482 | 0.03575003 | 0.03575003 | 0.003951886 | 0.031789482 | 0.03575003 | 0.03575003 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutheium (Lu) | Lutheium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 |
| **Common Name** | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001309153 | 0.00064 | 0.0005488 | — | — | — | 4.0353E-05 | 0.00008 | 0.00676049 | 0.006009325 | 0 | — | — | — | 0 | 0.000751166 | 0.00676059 | 0.006009325 |
| Arsenic (As) | Arsenic | As | Yes | 0.002983724 | 0.001549925 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001076337 | 0.015199303 | 0.008970081 | 0 | — | — | — | 0 | 0.006229223 | 0.015199303 | 0.008970081 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.000343658 | 3.58672E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.17343E-06 | 0.000127448 | 0.000106206 | 0 | — | — | — | 0 | 2.12413E-05 | 0.000127448 | 0.000106206 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.385746073 | 0.029064877 | 1.319662775 | — | — | — | 0.000687324 | 0.036331097 | 0.690086533 | 0.306705126 | 0 | — | — | — | 0 | 0.383381407 | 0.690086533 | 0.306705126 |
| Copper (Cu) | Copper | Cu | Yes | 0.840141426 | 0.630519459 | 0.169684238 | — | — | — | 0.000530263 | 0.039407466 | 1.0694055 | 1.006499294 | 0 | — | — | — | 0 | 0.062906206 | 1.0694055 | 1.006499294 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.004630909 | 0.000805722 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000447623 | 0.019452329 | 0.012505069 | 0 | — | — | — | 0 | 0.00694726 | 0.019452329 | 0.012505069 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.004497775 | 0.002510773 | 0.001909316 | — | — | — | 1.49165E-05 | 6.27693E-05 | 0.018023506 | 0.017583909 | 0 | — | — | — | 0 | 0.000439598 | 0.018023561 | 0.017583909 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 0 | — | 0 | — | — | — | 0 | — | 4.70999E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.001675335 | 4.0556E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.63278E-05 | 0.000616269 | 4.40542E-06 | 0 | — | — | — | 0 | 0.000611863 | 0.000616269 | 4.40542E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.066713739 | 0.000256 | 0.064354966 | — | — | — | 0.000502773 | 0.0016 | 0.002216111 | 0.000305671 | 0 | — | — | — | 0 | 0.001910441 | 0.002216111 | 0.000305671 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.002354625 | 5.83172E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.28965E-06 | 2.45968E-05 | 1.09319E-05 | 0 | — | — | — | 0 | 1.36649E-05 | 2.45968E-05 | 1.09319E-05 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.012378994 | 0.009691971 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000969197 | 0.07031421 | 0.063922009 | 0 | — | — | — | 0 | 0.006392201 | 0.07031421 | 0.063922009 |
| Aluminum (Al) | Aluminum | Al | Yes | 2.408653058 | — | 2.389981329 | — | — | — | 0.018671729 | — | 161.9185885 | 157.9693546 | 0 | — | — | — | 0 | 3.949233866 | 161.9185885 | 157.9693546 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_3 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_3 | — |
| **Common Name** | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.30212E-08 | — | — | — | 6.83979E-09 | 0.000751166 | 0.00676049 | 0.006009325 | 0 | — | — | — | 0 | 0.000751166 | 0.000111512 | 7.89476E-05 | 3.83774E-08 | — |
| Arsenic (As) | Arsenic | As | Yes | 0 | — | — | — | 0 | 0.006229223 | 0.015199303 | 0.008970081 | 0 | — | — | — | 0 | 0.006229223 | 0.000224647 | 9.89864E-05 | 1.43611E-09 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | — | — | — | 0 | 2.12413E-05 | 0.000127448 | 0.000106206 | 0 | — | — | — | 0 | 2.12413E-05 | 2.01752E-06 | 1.49378E-06 | 0 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | — | — | — | 0 | 0.383381407 | 0.690086533 | 0.306705126 | 0 | — | — | — | 0 | 0.383381407 | 0.005996357 | 0.002505047 | 0 | — |
| Copper (Cu) | Copper | Cu | Yes | 0 | — | — | — | 0 | 0.062906206 | 1.0694055 | 1.006499294 | 0 | — | — | — | 0 | 0.062906206 | 0.032827825 | 0.01171066 | 0.019608089 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 7.07767E-19 | — | — | — | 2.60209E-21 | 0.00694726 | 0.019452329 | 0.012505069 | 0 | — | — | — | 0 | 0.00694726 | 0.000490782 | 0.000179388 | 0.000194259 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.39247E-08 | — | — | — | 4.21287E-10 | 0.000439598 | 0.018023506 | 0.017583909 | 0 | — | — | — | 0 | 0.000439598 | 0.00015005 | 0.000142878 | 0 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.67348E-10 | — | — | — | 3.65115E-12 | — | 0 | — | 0 | — | — | — | 0 | — | 3.12E-08 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.08167E-19 | — | — | — | 1.6263E-21 | 0.000611863 | 0.000616269 | 4.40542E-06 | 0 | — | — | — | 0 | 0.000611863 | 1.82544E-05 | 8.77895E-08 | 0 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.11022E-17 | — | — | — | 8.67362E-20 | 0.001910441 | 0.002216111 | 0.000305671 | 0 | — | — | — | 0 | 0.001910441 | 0.000321418 | 1.12301E-05 | 0 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 4.04657E-19 | — | — | — | 3.16138E-21 | 1.36649E-05 | 2.45968E-05 | 1.09319E-05 | 0 | — | — | — | 0 | 1.36649E-05 | 9.49407E-06 | 1.69782E-07 | 0 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | — | — | — | 0 | 0.006392201 | 0.07031421 | 0.063922009 | 0 | — | — | — | 0 | 0.006392201 | 0.001031888 | 0.00079037 | 0.00010848 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | — | — | — | 0 | 3.949233866 | 161.9185885 | 157.9693546 | 0 | — | — | — | 0 | 3.949233866 | 1.317127234 | 1.276997301 | 0 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0.000290193 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_3 | — | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.26571E-05 | 9.86845E-06 | 0.00676049 | 0.006009325 | 0 | — | — | — | 0 | 0.000751166 | 0.007349384 | 0.006009325 | 0.000548893 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 5.6919E-05 | 6.87406E-05 | 0.015199303 | 0.008970081 | 0 | — | — | — | 0 | 0.006229223 | 0.016184636 | 0.008970081 | 0.000265333 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 2.2498E-07 | 2.98756E-07 | 0.000127448 | 0.000106206 | 0 | — | — | — | 0 | 2.12413E-05 | 0.000432667 | 0.000106206 | 0.00030042 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0.00036 | 0.00313109 | 0.690086533 | 0.306705126 | 0 | — | — | — | 0 | 0.383381407 | 1.876188036 | 0.306705126 | 1.184501504 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 0.00077716 | 0.000731916 | 1.0694055 | 1.006499294 | 0 | — | — | — | 0 | 0.06290620 6 | 1.242689738 | 1.006499294 | 0.169684238 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 1.74744E-05 | 9.96602E-05 | 0.019452329 | 0.012505069 | 0 | — | — | — | 0 | 0.00694726 | 0.02330952 | 0.012505069 | 0.003365191 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0.0000036 | 3.57196E-06 | 0.018023506 | 0.017583909 | 0 | — | — | — | 0 | 0.000439598 | 0.020292876 | 0.017583909 | 0.00190937 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 3.12E-08 | — | 0 | — | 0 | — | — | — | 0 | — | 4.46279E-05 | — | 1.65479E-05 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 5.97363E-06 | 1.2193E-05 | 0.000616269 | 4.40542E-06 | 0 | — | — | — | 0 | 0.000611863 | 0.002225324 | 4.40542E-06 | 0.001606055 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0.00024 | 7.0188E-05 | 0.002216111 | 0.000305671 | 0 | — | — | — | 0 | 0.001910441 | 0.580171077 | 0.000305671 | 0.064354966 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 9.11206E-06 | 2.12228E-07 | 2.45968E-05 | 1.09319E-05 | 0 | — | — | — | 0 | 1.36649E-05 | 0.002357061 | 1.09319E-05 | 0.002323353 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.000054 | 7.9037E-05 | 0.07031421 | 0.063922009 | 0 | — | — | — | 0 | 0.006392201 | 0.072077607 | 0.063922009 | 0.001691397 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0.008205 | 0.031924933 | 161.9185885 | 157.9693546 | 0 | — | — | — | 0 | 3.949233866 | 164.3145398 | 157.9693546 | 2.389981329 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0.000290193 | — | 0 | — | 0 | — | — | — | 0 | — | 0.20490117 | — | 0.06490117 | — | — | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_3 | — | — | — | Media_Water (pit lake dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Waste Rock (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.00004 | 0.000751166 | 0.007349644 | 0.006009325 | 0.0005488 | — | — | — | 4.0353E-05 | 0.000751166 | 0.001380312 | 0.000718948 | 0.000548839 | — | — | — | 2.26571E-05 | 8.98684E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0.00072 | 0.006229223 | 0.015556765 | 0.008970081 | 0.000265333 | — | — | — | 9.21294E-05 | 0.006229223 | 0.003116242 | 0.001648911 | 0.000265334 | — | — | — | 5.6919E-05 | 0.001145077 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.0000048 | 2.12413E-05 | 0.000428065 | 0.000106206 | 0.00030042 | — | — | — | 1.97644E-07 | 2.12413E-05 | 0.000345478 | 3.73609E-05 | 0.00030042 | — | — | — | 2.2498E-07 | 7.47219E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.0016 | 0.383381407 | 2.010436632 | 0.306705126 | 1.319662775 | — | — | — | 0.000687324 | 0.383381407 | 1.287632225 | 0.031569925 | 1.216239894 | — | — | — | 0.00036 | 0.039462406 |
| Copper (Cu) | Copper | Cu | Yes | 0.0036 | 0.062906206 | 1.239620001 | 1.006499294 | 0.169684238 | — | — | — | 0.000530263 | 0.062906206 | 0.872438988 | 0.642230119 | 0.189292327 | — | — | — | 0.00077716 | 0.040139382 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.000492 | 0.00694726 | 0.022829892 | 0.012505069 | 0.003365191 | — | — | — | 1.2372E-05 | 0.00694726 | 0.005109318 | 0.00098511 | 0.00355945 | — | — | — | 1.74744E-05 | 0.000547283 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.00036 | 0.000439598 | 0.019947739 | 0.017583909 | 0.001909316 | — | — | — | 1.49165E-05 | 0.000439598 | 0.004632317 | 0.002653652 | 0.001908724 | — | — | — | 0.0000036 | 6.63413E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 0.00002808 | — | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 1.65735E-05 | — | 1.65423E-05 | — | — | — | 3.12E-08 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.000003 | 0.000611863 | 0.002234871 | 4.40542E-06 | 0.001606055 | — | — | — | 1.25473E-05 | 0.000611863 | 0.001681043 | 4.9335E-07 | 0.001606055 | — | — | — | 5.97363E-06 | 6.85208E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.5136 | 0.001910441 | 0.06707385 | 0.000305671 | 0.064354966 | — | — | — | 0.000502773 | 0.001910441 | 0.066532384 | 0.00026723 | 0.064354966 | — | — | — | 0.00024 | 0.001670188 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 9.11206E-06 | 1.36649E-05 | 0.002366101 | 1.09319E-05 | 0.002323353 | — | — | — | 1.81512E-05 | 1.36649E-05 | 0.002345968 | 6.0015E-06 | 0.002323353 | — | — | — | 9.11206E-06 | 7.50187E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.000072 | 0.006392201 | 0.072032035 | 0.063922009 | 0.001691397 | — | — | — | 2.64281E-05 | 0.006392201 | 0.013384453 | 0.010482341 | 0.001799878 | — | — | — | 0.000054 | 0.001048234 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.00597 | 3.949233866 | 164.3272416 | 157.9693546 | 2.389981329 | — | — | — | 0.018671729 | 3.949233866 | 3.707108563 | 1.276997301 | 2.389981329 | — | — | — | 0.008205 | 0.031924933 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.14 | — | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0.065190388 | — | 0.064900196 | — | — | — | 0.000290193 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001309153 | 0.00064 | 0.0005488 | — | — | — | 4.0353E-05 | 0.00008 | 3.10644E-07 | 2.76128E-07 | 0 | — | — | — | 0 | 3.4516E-08 | 4.41167E-06 | 3.83272E-06 |
| Arsenic (As) | Arsenic | As | Yes | 0.002983724 | 0.001549925 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001076337 | 7.04429E-07 | 4.15729E-07 | 0 | — | — | — | 0 | 2.88701E-07 | 7.94947E-06 | 4.69149E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.000343658 | 3.58672E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.17343E-06 | 6.03234E-09 | 5.02695E-09 | 0 | — | — | — | 0 | 1.00539E-09 | 8.74107E-08 | 7.28422E-08 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.385746073 | 0.029064877 | 1.319662775 | — | — | — | 0.000687324 | 0.036331097 | 3.16611E-05 | 1.40716E-05 | 0 | — | — | — | 0 | 1.75895E-05 | 0.000254034 | 0.000112904 |
| Copper (Cu) | Copper | Cu | Yes | 0.840141426 | 0.630519459 | 0.169684238 | — | — | — | 0.000530263 | 0.039407466 | 5.24625E-05 | 4.93765E-05 | 0 | — | — | — | 0 | 3.08603E-06 | 0.000589349 | 0.000554681 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.004630909 | 0.000805722 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000447623 | 8.88943E-07 | 5.71463E-07 | 0 | — | — | — | 0 | 3.1748E-07 | 1.369E-05 | 8.80073E-06 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.004497775 | 0.002510773 | 0.001909316 | — | — | — | 1.49165E-05 | 6.27693E-05 | 8.32089E-07 | 8.11794E-07 | 0 | — | — | — | 0 | 2.02948E-08 | 6.63942E-06 | 6.42447E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 0 | — | 0 | — | — | — | 0 | — | 4.70999E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.001675335 | 4.0556E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.63278E-05 | 2.82643E-08 | 2.02049E-10 | 0 | — | — | — | 0 | 2.80623E-08 | 6.203E-07 | 4.43423E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.066713739 | 0.000256 | 0.064354966 | — | — | — | 0.000502773 | 0.0016 | 1.11513E-07 | 1.53811E-08 | 0 | — | — | — | 0 | 9.61317E-08 | 4.23675E-06 | 5.8438E-07 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.002354625 | 5.83172E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.28965E-06 | 1.19299E-09 | 5.30219E-10 | 0 | — | — | — | 0 | 6.62773E-10 | 1.87798E-08 | 8.34656E-09 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.012378994 | 0.009691971 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000969197 | 3.2499E-06 | 2.95445E-06 | 0 | — | — | — | 0 | 2.95445E-07 | 4.18646E-05 | 3.80587E-05 |
| Aluminum (Al) | Aluminum | Al | Yes | 2.408653058 | — | 2.389981329 | — | — | — | 0.018671729 | — | 0.007337086 | 0.007158132 | 0 | — | — | — | 0 | 0.000178953 | 0.059020472 | 0.057580949 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — |
| Common Name | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — |
| Chemical Property | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| Wet Ingestion Rates | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.30212E-08 | — | — | — | 6.83979E-09 | 4.7909E-07 | 4.62318E-06 | 4.10949E-06 | 0 | — | — | — | 0 | 5.13686E-07 | 4.66437E-06 | 4.10949E-06 | 3.83774E-08 | — |
| Arsenic (As) | Arsenic | As | Yes | 0 | — | — | — | 0 | 3.25798E-06 | 8.65558E-06 | 5.10821E-06 | 0 | — | — | — | 0 | 3.54737E-06 | 8.65752E-06 | 5.10821E-06 | 1.43611E-09 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | — | — | — | 0 | 1.45684E-08 | 9.34586E-08 | 7.78821E-08 | 0 | — | — | — | 0 | 1.55764E-08 | 9.34586E-08 | 7.78821E-08 | 0 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | — | — | — | 0 | 0.00014113 | 0.000285768 | 0.000127008 | 0 | — | — | — | 0 | 0.00015876 | 0.000285768 | 0.000127008 | 0 | — |
| Copper (Cu) | Copper | Cu | Yes | 0 | — | — | — | 0 | 3.46676E-05 | 0.000641963 | 0.0006042 | 0 | — | — | — | 0 | 3.77625E-05 | 0.020311327 | 0.0006042 | 0.019608089 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 7.07767E-19 | — | — | — | 2.60209E-21 | 4.88929E-06 | 1.4581E-05 | 9.37349E-06 | 0 | — | — | — | 0 | 5.20749E-06 | 0.000209554 | 9.37349E-06 | 0.000194259 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.39247E-08 | — | — | — | 4.21287E-10 | 1.60612E-07 | 7.41913E-06 | 7.23817E-06 | 0 | — | — | — | 0 | 1.80954E-07 | 7.41913E-06 | 7.23817E-06 | 0 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.67348E-10 | — | — | — | 3.65115E-12 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.08167E-19 | — | — | — | 1.6263E-21 | 6.15865E-07 | 6.48629E-07 | 4.63674E-09 | 0 | — | — | — | 0 | 6.43992E-07 | 6.48629E-07 | 4.63674E-09 | 0 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.11022E-17 | — | — | — | 8.67362E-20 | 3.65237E-06 | 4.34861E-06 | 5.99808E-07 | 0 | — | — | — | 0 | 3.7488E-06 | 4.34861E-06 | 5.99808E-07 | 0 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 4.04657E-19 | — | — | — | 3.16138E-21 | 1.04332E-08 | 1.99761E-08 | 8.87826E-09 | 0 | — | — | — | 0 | 1.10978E-08 | 1.99761E-08 | 8.87826E-09 | 0 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | — | — | — | 0 | 3.80587E-06 | 4.51222E-05 | 4.10201E-05 | 0 | — | — | — | 0 | 4.10201E-06 | 0.000155298 | 4.10201E-05 | 0.00010848 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | — | — | — | 0 | 0.001439524 | 0.066373641 | 0.064754772 | 0 | — | — | — | 0 | 0.001618869 | 0.066373641 | 0.064754772 | 0 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.82187E-09 | 5.13686E-07 | 0.001309464 | 0.000640276 | 0.0005488 | — | — | — | 4.0353E-05 | 8.00345E-05 | 0.001313565 | 0.000643833 | 0.000548893 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 4.98648E-10 | 3.54737E-06 | 0.002984428 | 0.001550341 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001076625 | 0.002991673 | 0.001554616 | 0.000265333 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.55764E-08 | 0.000343664 | 3.58722E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.17444E-06 | 0.000343745 | 3.594E-05 | 0.00030042 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 0.00015876 | 1.385777734 | 0.029078949 | 1.319682775 | — | — | — | 0.000687324 | 0.036348686 | 1.25076844 | 0.029177781 | 1.184501504 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 6.12753E-05 | 3.77625E-05 | 0.840193889 | 0.630568836 | 0.169684238 | — | — | — | 0.000530263 | 0.039410552 | 0.840730775 | 0.631074141 | 0.169684238 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 7.14187E-07 | 5.20749E-06 | 0.004631797 | 0.000806293 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000447941 | 0.004644599 | 0.000814523 | 0.003365191 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 1.80954E-07 | 0.004498607 | 0.002511585 | 0.001909316 | — | — | — | 1.49165E-05 | 6.27896E-05 | 0.004504414 | 0.002517198 | 0.00190937 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 1.66772E-05 | — | 1.65479E-05 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 6.43992E-07 | 0.001675364 | 4.05762E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.63559E-05 | 0.001675956 | 4.09995E-07 | 0.001606055 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 3.7488E-06 | 0.066713851 | 0.000256015 | 0.064354966 | — | — | — | 0.000502773 | 0.001600096 | 0.066717976 | 0.000256584 | 0.064354966 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.10978E-08 | 0.002354626 | 5.83225E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.29031E-06 | 0.002354644 | 5.84006E-06 | 0.002323353 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 1.69501E-06 | 4.10201E-06 | 0.012382243 | 0.009694925 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000969493 | 0.012420858 | 0.00973003 | 0.001691397 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.001618869 | 2.415990144 | 0.007158132 | 2.389981329 | — | — | — | 0.018671729 | 0.000178953 | 2.467673531 | 0.057580949 | 2.389981329 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0.065408211 | — | 0.06490117 | — | — | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.03598E-05 | 8.04791E-05 | 0.001313776 | 0.000644109 | 0.0005488 | — | — | — | 4.0353E-05 | 8.05137E-05 | 0.001313818 | 0.000644109 | 0.000548839 | — | — | — | 4.03558E-05 | 8.05137E-05 |
| Arsenic (As) | Arsenic | As | Yes | 9.21294E-05 | 0.001079595 | 0.002992379 | 0.001555033 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001079884 | 0.002992381 | 0.001555033 | 0.000265334 | — | — | — | 9.21299E-05 | 0.001079884 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.97644E-07 | 7.188E-06 | 0.000343751 | 3.5945E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.18901E-06 | 0.000343751 | 3.5945E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.18901E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000616928 | 0.036472227 | 1.386031841 | 0.029191885 | 1.319662775 | — | — | — | 0.000687324 | 0.036489857 | 1.282555095 | 0.029191885 | 1.216239894 | — | — | — | 0.000633458 | 0.036489857 |
| Copper (Cu) | Copper | Cu | Yes | 0.000530263 | 0.039442134 | 0.840783389 | 0.631123659 | 0.169684238 | — | — | — | 0.000530263 | 0.039445229 | 0.860452754 | 0.631123659 | 0.189292327 | — | — | — | 0.000591539 | 0.039445229 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.2372E-05 | 0.000452513 | 0.004645489 | 0.000815095 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000452831 | 0.004840462 | 0.000815095 | 0.00355945 | — | — | — | 1.30862E-05 | 0.000452831 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.4917E-05 | 6.29299E-05 | 0.004505194 | 0.002518011 | 0.001909316 | — | — | — | 1.49165E-05 | 6.29503E-05 | 0.004504597 | 0.002518011 | 0.001908724 | — | — | — | 1.49119E-05 | 6.29503E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.2928E-07 | — | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 1.66715E-05 | — | 1.65423E-05 | — | — | — | 1.29236E-07 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 1.25473E-05 | 5.69437E-05 | 0.001675984 | 4.10197E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.69718E-05 | 0.001675984 | 4.10197E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.69718E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000502773 | 0.001603652 | 0.066718088 | 0.0002566 | 0.064354966 | — | — | — | 0.000502773 | 0.001603749 | 0.066718088 | 0.0002566 | 0.064354966 | — | — | — | 0.000502773 | 0.001603749 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.81512E-05 | 7.30008E-06 | 0.002354645 | 5.8406E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.30074E-06 | 0.002354645 | 5.8406E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.30074E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.64281E-05 | 0.000973003 | 0.012424116 | 0.009732991 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000973299 | 0.012534291 | 0.009732991 | 0.001799878 | — | — | — | 2.81231E-05 | 0.000973299 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.018671729 | 0.001439524 | 2.475026699 | 0.064754772 | 2.389981329 | — | — | — | 0.018671729 | 0.001618869 | 2.475026699 | 0.064754772 | 2.389981329 | — | — | — | 0.018671729 | 0.001618869 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.00050704 | — | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0.065407228 | — | 0.064900196 | — | — | — | 0.000507033 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001309153 | 0.00064 | 0.0005488 | — | — | — | 4.0353E-05 | 0.00008 | 3.10644E-07 | 2.76128E-07 | 0 | — | — | — | 0 | 3.4516E-08 | 4.41167E-06 | 3.83272E-06 |
| Arsenic (As) | Arsenic | As | Yes | 0.002983724 | 0.001549925 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001076337 | 7.04429E-07 | 4.15729E-07 | 0 | — | — | — | 0 | 2.88701E-07 | 7.94947E-06 | 4.69149E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.000343658 | 3.58672E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.17343E-06 | 6.03234E-09 | 5.02695E-09 | 0 | — | — | — | 0 | 1.00539E-09 | 8.74107E-08 | 7.28422E-08 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.385746073 | 0.029064877 | 1.319662775 | — | — | — | 0.000687324 | 0.036331097 | 3.16611E-05 | 1.40716E-05 | 0 | — | — | — | 0 | 1.75895E-05 | 0.000254034 | 0.000112904 |
| Copper (Cu) | Copper | Cu | Yes | 0.840141426 | 0.630519459 | 0.169684238 | — | — | — | 0.000530263 | 0.039407466 | 5.24625E-05 | 4.93765E-05 | 0 | — | — | — | 0 | 3.08603E-06 | 0.000589349 | 0.000554681 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.004630909 | 0.000805722 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000447623 | 8.88943E-07 | 5.71463E-07 | 0 | — | — | — | 0 | 3.1748E-07 | 1.369E-05 | 8.80073E-06 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.004497775 | 0.002510773 | 0.001909316 | — | — | — | 1.49165E-05 | 6.27693E-05 | 8.32089E-07 | 8.11794E-07 | 0 | — | — | — | 0 | 2.02948E-08 | 6.63942E-06 | 6.42447E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 0 | — | 0 | — | — | — | 0 | — | 4.70999E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.001675335 | 4.0556E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.63278E-05 | 2.82633E-08 | 2.02049E-10 | 0 | — | — | — | 0 | 2.80623E-08 | 6.203E-07 | 4.43423E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.066713739 | 0.000256 | 0.064354966 | — | — | — | 0.000502773 | 0.0016 | 1.11513E-07 | 1.53811E-08 | 0 | — | — | — | 0 | 9.61317E-08 | 4.23675E-06 | 5.8438E-07 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.002354625 | 5.83172E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.28965E-06 | 1.19299E-09 | 5.30219E-10 | 0 | — | — | — | 0 | 6.62773E-10 | 1.87798E-08 | 8.34656E-09 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.012378994 | 0.009691971 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000969197 | 3.2499E-06 | 2.95445E-06 | 0 | — | — | — | 0 | 2.95445E-07 | 4.18646E-05 | 3.80587E-05 |
| Aluminum (Al) | Aluminum | Al | Yes | 2.408653058 | — | 2.389981329 | — | — | — | 0.018671729 | — | 0.007337086 | 0.007158132 | 0 | — | — | — | 0 | 0.000178953 | 0.059020472 | 0.057580949 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — |
| Common Name | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — |
| Chemical Property | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| Wet Ingestion Rates | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.30212E-08 | — | — | — | 6.83979E-09 | 4.7909E-07 | 4.62318E-06 | 4.10949E-06 | 0 | — | — | — | 0 | 5.13686E-07 | 4.66437E-06 | 4.10949E-06 | 3.83774E-08 | — |
| Arsenic (As) | Arsenic | As | Yes | 0 | — | — | — | 0 | 3.25798E-06 | 8.65558E-06 | 5.10821E-06 | 0 | — | — | — | 0 | 3.54737E-06 | 8.65752E-06 | 5.10821E-06 | 1.43611E-09 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | — | — | — | 0 | 1.45684E-08 | 9.34586E-08 | 7.78821E-08 | 0 | — | — | — | 0 | 1.55764E-08 | 9.34586E-08 | 7.78821E-08 | 0 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | — | — | — | 0 | 0.00014113 | 0.000285768 | 0.000127008 | 0 | — | — | — | 0 | 0.00015876 | 0.000285768 | 0.000127008 | 0 | — |
| Copper (Cu) | Copper | Cu | Yes | 0 | — | — | — | 0 | 3.46676E-05 | 0.000641963 | 0.0006042 | 0 | — | — | — | 0 | 3.77625E-05 | 0.020311327 | 0.0006042 | 0.019608089 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 7.07767E-19 | — | — | — | 2.60209E-21 | 4.88929E-06 | 1.4581E-05 | 9.37349E-06 | 0 | — | — | — | 0 | 5.20749E-06 | 0.000209554 | 9.37349E-06 | 0.000194259 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.39247E-08 | — | — | — | 4.21287E-10 | 1.60612E-07 | 7.41913E-06 | 7.23817E-06 | 0 | — | — | — | 0 | 1.80954E-07 | 7.41913E-06 | 7.23817E-06 | 0 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.67348E-10 | — | — | — | 3.65115E-12 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.08167E-19 | — | — | — | 1.6263E-21 | 6.15865E-07 | 6.48629E-07 | 4.63674E-09 | 0 | — | — | — | 0 | 6.43992E-07 | 6.48629E-07 | 4.63674E-09 | 0 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.11022E-17 | — | — | — | 8.67362E-20 | 3.65237E-06 | 4.34861E-06 | 5.99808E-07 | 0 | — | — | — | 0 | 3.7488E-06 | 4.34861E-06 | 5.99808E-07 | 0 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 4.04657E-19 | — | — | — | 3.16138E-21 | 1.04332E-08 | 1.99761E-08 | 8.87826E-09 | 0 | — | — | — | 0 | 1.10978E-08 | 1.99761E-08 | 8.87826E-09 | 0 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | — | — | — | 0 | 3.80587E-06 | 4.51222E-05 | 4.10201E-05 | 0 | — | — | — | 0 | 4.10201E-06 | 0.000155298 | 4.10201E-05 | 0.00010848 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | — | — | — | 0 | 0.001439524 | 0.066373641 | 0.064754772 | 0 | — | — | — | 0 | 0.001618869 | 0.066373641 | 0.064754772 | 0 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.82187E-09 | 5.13686E-07 | 0.001309464 | 0.000640276 | 0.0005488 | — | — | — | 4.0353E-05 | 8.00345E-05 | 0.001313565 | 0.000643833 | 0.000548893 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 4.98648E-10 | 3.54737E-06 | 0.002984428 | 0.001550341 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001076625 | 0.002991673 | 0.001554616 | 0.000265333 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.55764E-08 | 0.000343664 | 3.58722E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.17444E-06 | 0.000343745 | 3.594E-05 | 0.00030042 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 0.00015876 | 1.385777734 | 0.029078949 | 1.319662775 | — | — | — | 0.000687324 | 0.036348686 | 1.25076844 | 0.029177781 | 1.184501504 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 6.12753E-05 | 3.77625E-05 | 0.840193889 | 0.630568836 | 0.169684238 | — | — | — | 0.000530263 | 0.039410552 | 0.840730775 | 0.631074141 | 0.169684238 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 7.14187E-07 | 5.20749E-06 | 0.004631797 | 0.000806293 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000447941 | 0.004644599 | 0.000814523 | 0.003365191 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 1.80954E-07 | 0.004498607 | 0.002511585 | 0.001909316 | — | — | — | 1.49165E-05 | 6.27896E-05 | 0.004504414 | 0.002517198 | 0.00190937 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 1.66772E-05 | — | 1.65479E-05 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 6.43992E-07 | 0.001675364 | 4.05762E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.63559E-05 | 0.001675956 | 4.09995E-07 | 0.001606055 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 3.7488E-06 | 0.066713851 | 0.000256015 | 0.064354966 | — | — | — | 0.000502773 | 0.001600096 | 0.066717976 | 0.000256584 | 0.064354966 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.10978E-08 | 0.002354626 | 5.83225E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.29031E-06 | 0.002354644 | 5.84006E-06 | 0.002323353 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 1.69501E-06 | 4.10201E-06 | 0.012382243 | 0.009694925 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000969493 | 0.012420858 | 0.00973003 | 0.001691397 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.001618869 | 2.415990144 | 0.007158132 | 2.389981329 | — | — | — | 0.018671729 | 0.000178953 | 2.467673531 | 0.057580949 | 2.389981329 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0.065408211 | — | 0.06490117 | — | — | — |

**TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE**

**Moose**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_3 | — | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 | — | forage | macrophytes | — | — | — | 0 | 0 |
| **Chemical Property** | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient | Beef Transfer Coefficient |
| **Wet Ingestion Rates** | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 | — | 23.65988909 | 10.94329118 | — | — | — | 20 | 0.16 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) | Concentration in Moose (mg/kg) | Concentration in Moose from the consumption of Plant_1 (mg/kg) | Concentration in Moose from the consumption of Plant_3 (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of — (mg/kg) | Concentration in Moose from the consumption of media_Water (dry) (mg/kg) | Concentration in Moose from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.03598E-05 | 8.04791E-05 | 0.001313776 | 0.000644109 | 0.0005488 | — | — | — | 4.0353E-05 | 8.05137E-05 | 0.001313818 | 0.000644109 | 0.000548839 | — | — | — | 4.03558E-05 | 8.05137E-05 |
| Arsenic (As) | Arsenic | As | Yes | 9.21294E-05 | 0.001079595 | 0.002992379 | 0.001555033 | 0.000265333 | — | — | — | 9.21294E-05 | 0.001079884 | 0.002992381 | 0.001555033 | 0.000265334 | — | — | — | 9.21299E-05 | 0.001079884 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.97644E-07 | 7.188E-06 | 0.000343751 | 3.5945E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.18901E-06 | 0.000343751 | 3.5945E-05 | 0.00030042 | — | — | — | 1.97644E-07 | 7.18901E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000616928 | 0.036472227 | 1.386031841 | 0.029191885 | 1.319662775 | — | — | — | 0.000687324 | 0.036489857 | 1.282555095 | 0.029191885 | 1.216239894 | — | — | — | 0.000633458 | 0.036489857 |
| Copper (Cu) | Copper | Cu | Yes | 0.000530263 | 0.039442134 | 0.840783389 | 0.631123659 | 0.169684238 | — | — | — | 0.000530263 | 0.039445229 | 0.860452754 | 0.631123659 | 0.189292327 | — | — | — | 0.000591539 | 0.039445229 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.2372E-05 | 0.000452513 | 0.004645489 | 0.000815095 | 0.003365191 | — | — | — | 1.2372E-05 | 0.000452831 | 0.004840462 | 0.000815095 | 0.00355945 | — | — | — | 1.30862E-05 | 0.000452831 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.4917E-05 | 6.29299E-05 | 0.004505194 | 0.002518011 | 0.001909316 | — | — | — | 1.49165E-05 | 6.29503E-05 | 0.004504597 | 0.002518011 | 0.001908724 | — | — | — | 1.49119E-05 | 6.29503E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.2928E-07 | — | 1.66767E-05 | — | 1.65474E-05 | — | — | — | 1.29277E-07 | — | 1.66715E-05 | — | 1.65423E-05 | — | — | — | 1.29236E-07 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 1.25473E-05 | 5.69437E-05 | 0.001675984 | 4.10197E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.69718E-05 | 0.001675984 | 4.10197E-07 | 0.001606055 | — | — | — | 1.25473E-05 | 5.69718E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000502773 | 0.001603652 | 0.066718088 | 0.0002566 | 0.064354966 | — | — | — | 0.000502773 | 0.001603749 | 0.066718088 | 0.0002566 | 0.064354966 | — | — | — | 0.000502773 | 0.001603749 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.81512E-05 | 7.30008E-06 | 0.002354645 | 5.8406E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.30074E-06 | 0.002354645 | 5.8406E-06 | 0.002323353 | — | — | — | 1.81512E-05 | 7.30074E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.64281E-05 | 0.000973003 | 0.012424116 | 0.009732991 | 0.001691397 | — | — | — | 2.64281E-05 | 0.000973299 | 0.012534291 | 0.009732991 | 0.001799878 | — | — | — | 2.81231E-05 | 0.000973299 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.018671729 | 0.001439524 | 2.475026699 | 0.064754772 | 2.389981329 | — | — | — | 0.018671729 | 0.001618869 | 2.475026699 | 0.064754772 | 2.389981329 | — | — | — | 0.018671729 | 0.001618869 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.00050704 | — | 0.065408211 | — | 0.06490117 | — | — | — | 0.00050704 | — | 0.065407228 | — | 0.064900196 | — | — | — | 0.000507033 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_2 |
| **Common Name** | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.00628909 | 0.00000729 | 0.002778301 | 0.003645 | — | — | 3.63172E-05 | 0.000162 | 0.035814543 | 6.845E-05 | 0 | 0.034224983 | — | — | 0 | 0.00152111 | 0.035851014 | 6.845E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0.019944412 | 7.32582E-05 | 0.001641747 | 0.015464132 | — | — | 0.000101341 | 0.002663933 | 0.10533888 | 0.00042376 | 0 | 0.089497578 | — | — | 0 | 0.015417326 | 0.10613087 | 0.00042376 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.023373755 | 4.76361E-06 | 0.004987435 | 0.018333336 | — | — | 5.83319E-07 | 4.76361E-05 | 0.054442055 | 1.41055E-05 | 0 | 0.054286894 | — | — | 0 | 0.000141055 | 0.054456221 | 1.41055E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.051538285 | 5.44966E-06 | 0.049487354 | 0.001495933 | — | — | 4.58211E-06 | 0.000544966 | 0.021593958 | 5.75072E-05 | 0 | 0.015785729 | — | — | 0 | 0.005750721 | 0.021604624 | 5.75072E-05 |
| Copper (Cu) | Copper | Cu | Yes | 1.280871803 | 0.015413245 | 0.474055339 | 0.747102015 | — | — | 0.000263361 | 0.044037843 | 1.287502103 | 0.02460419 | 0 | 1.192600228 | — | — | 0 | 0.070297685 | 1.289290081 | 0.02460419 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.074421134 | 2.15419E-06 | 0.014722712 | 0.058903305 | — | — | 9.62257E-06 | 0.000783341 | 0.926389818 | 3.34337E-05 | 0 | 0.914198679 | — | — | 0 | 0.012157706 | 0.92677248 | 3.34337E-05 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.0042714 | 6.01997E-06 | 0.001664685 | 0.002576493 | — | — | 2.31203E-06 | 2.18908E-05 | 0.018239639 | 4.21602E-05 | 0 | 0.018044169 | — | — | 0 | 0.00015331 | 0.018295485 | 4.21602E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 0 | — | 0 | — | — | — | 0 | — | 4.29035E-07 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.007770517 | 1.80073E-05 | 0.004667597 | 0.003012949 | — | — | 6.48269E-06 | 6.54811E-05 | 0.033635188 | 0.000195605 | 0 | 0.032728292 | — | — | 0 | 0.000711291 | 0.033636738 | 0.000195605 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.011966883 | 2.6325E-06 | 0.008144925 | 0.003727013 | — | — | 1.13123E-05 | 0.000081 | 0.004550007 | 3.14327E-06 | 0 | 0.004450148 | — | — | 0 | 9.67161E-05 | 0.016105866 | 3.14327E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.010139054 | 0.000000039 | 0.009561585 | 0.00055215 | — | — | 1.32798E-05 | 0.000012 | 0.001057608 | 7.3108E-08 | 0 | 0.00103504 | — | — | 0 | 2.24948E-05 | 0.001064275 | 7.3108E-08 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 95.14349914 | 0.695863325 | 11.03989145 | 80.84666628 | — | — | 0.030665991 | 2.53041209 | 554.4910679 | 4.589467078 | 0 | 533.2126296 | — | — | 0 | 16.68897119 | 554.5746135 | 4.589467078 |
| Aluminum (Al) | Aluminum | Al | Yes | 13.91106036 | — | 13.89176648 | — | — | — | 0.019293885 | — | 22.65650786 | 2.525041403 | 0 | 10.94949772 | — | — | 0 | 9.181968739 | 22.66267679 | 2.525041403 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0 | — | 0 | — | — | — | 0 | — | 0.030999622 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_3 | Invertebrate_1 | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_2 | Plant_3 | Invertebrate_1 |
| **Common Name** | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.7092E-07 | 0.034224983 | — | — | 3.59996E-05 | 0.00152111 | 0.035814543 | 6.845E-05 | 0 | 0.034224983 | — | — | 0 | 0.00152111 | 0.0004911 | 8.99262E-07 | 1.94286E-07 | 0.000449631 |
| Arsenic (As) | Arsenic | As | Yes | 0 | 0.089497578 | — | — | 0.00079199 | 0.015417326 | 0.10533888 | 0.000423976 | 0 | 0.089497578 | — | — | 0 | 0.015417326 | 0.001225052 | 4.67865E-06 | 8.88591E-09 | 0.000987621 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | 0.054286894 | — | — | 1.41665E-05 | 0.000141055 | 0.054442055 | 1.41055E-05 | 0 | 0.054286894 | — | — | 0 | 0.000141055 | 0.00076638 | 1.98393E-07 | 0 | 0.00076354 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | 0.015785729 | — | — | 1.06665E-05 | 0.005750721 | 0.021593958 | 5.75072E-05 | 0 | 0.015785729 | — | — | 0 | 0.005750721 | 0.000178771 | 4.69696E-07 | 0 | 0.000128932 |
| Copper (Cu) | Copper | Cu | Yes | 0 | 1.192600228 | — | — | 0.001787978 | 0.070297685 | 1.287502103 | 0.02460419 | 0 | 1.192600228 | — | — | 0 | 0.070297685 | 0.070146223 | 0.000286271 | 0.0547801 | 0.013875952 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 3.09648E-18 | 0.914198679 | — | — | 0.000382662 | 0.012157706 | 0.926389818 | 3.34337E-05 | 0 | 0.914198679 | — | — | 0 | 0.012157706 | 0.014152764 | 4.79615E-07 | 0.000849882 | 0.013114406 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 4.70156E-08 | 0.018044169 | — | — | 5.57993E-05 | 0.00015331 | 0.018239639 | 4.21602E-05 | 0 | 0.018044169 | — | — | 0 | 0.00015331 | 0.000148765 | 3.42573E-07 | 0 | 0.000146618 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.01627E-11 | — | — | — | 4.28995E-07 | — | 0 | — | 0 | — | — | — | 0 | — | 4.76661E-10 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.04985E-19 | 0.032728292 | — | — | 1.54998E-06 | 0.000711291 | 0.033635188 | 0.000195605 | 0 | 0.032728292 | — | — | 0 | 0.000711291 | 0.000673356 | 3.89795E-06 | 0 | 0.000652197 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.40513E-18 | 0.004450148 | — | — | 0.011555859 | 9.67161E-05 | 0.004550007 | 3.14327E-06 | 0 | 0.004450148 | — | — | 0 | 9.67161E-05 | 0.000172563 | 1.15481E-07 | 0 | 0.000163495 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.66533E-18 | 0.00103504 | — | — | 6.66659E-06 | 2.24948E-05 | 0.001057608 | 7.3108E-08 | 0 | 0.00103504 | — | — | 0 | 2.24948E-05 | 2.30922E-05 | 1.13543E-09 | 0 | 1.60751E-05 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | 533.2126296 | — | — | 0.083545648 | 16.68897119 | 554.4910679 | 4.589467078 | 0 | 533.2126296 | — | — | 0 | 16.68897119 | 7.626783368 | 0.056746954 | 0.708060272 | 6.592964344 |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | 10.94949772 | — | — | 0.006168925 | 9.181968739 | 22.65650786 | 2.525041403 | 0 | 10.94949772 | — | — | 0 | 9.181968739 | 0.191629739 | 0.020412004 | 0 | 0.088513871 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0.030999622 | — | 0 | — | 0 | — | — | — | 0 | — | 6.42561E-05 | — | 0 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.03912E-05 | 1.99836E-05 | 0.035814543 | 6.845E-05 | 0 | 0.034224983 | — | — | 0 | 0.00152111 | 0.038629315 | 6.845E-05 | 0.002778772 | 0.034224983 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 6.26101E-05 | 0.000170133 | 0.10533888 | 0.000423976 | 0 | 0.089497578 | — | — | 0 | 0.015417326 | 0.107772617 | 0.000423976 | 0.001641747 | 0.089497578 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 6.63995E-07 | 1.98393E-06 | 0.054442055 | 1.41055E-05 | 0 | 0.054286894 | — | — | 0 | 0.000141055 | 0.059443656 | 1.41055E-05 | 0.004987435 | 0.054286894 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 2.39997E-06 | 4.69696E-05 | 0.021593958 | 5.75072E-05 | 0 | 0.015785729 | — | — | 0 | 0.005750721 | 0.066023431 | 5.75072E-05 | 0.044418806 | 0.015785729 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 0.000385985 | 0.000817916 | 1.287502103 | 0.02460419 | 0 | 1.192600228 | — | — | 0 | 0.070297685 | 1.76334542 | 0.02460419 | 0.474055339 | 1.192600228 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 1.3591E-05 | 0.000174405 | 0.926389818 | 3.34337E-05 | 0 | 0.914198679 | — | — | 0 | 0.012157706 | 0.941495192 | 3.34337E-05 | 0.014722712 | 0.914198679 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 5.57993E-07 | 1.24572E-06 | 0.018239639 | 4.21602E-05 | 0 | 0.018044169 | — | — | 0 | 0.00015331 | 0.01996017 | 4.21602E-05 | 0.001664732 | 0.018044169 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 4.76661E-10 | — | 0 | — | 0 | — | — | — | 0 | — | 1.85108E-06 | — | 1.42208E-06 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 3.08634E-06 | 1.41744E-05 | 0.033635188 | 0.000195605 | 0 | 0.032728292 | — | — | 0 | 0.000711291 | 0.038304335 | 0.000195605 | 0.004667597 | 0.032728292 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 5.39993E-06 | 3.55327E-06 | 0.004550007 | 3.14327E-06 | 0 | 0.004450148 | — | — | 0 | 9.67161E-05 | 0.024250792 | 3.14327E-06 | 0.008144925 | 0.004450148 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 6.66659E-06 | 3.49363E-07 | 0.001057608 | 7.3108E-08 | 0 | 0.00103504 | — | — | 0 | 2.24948E-05 | 0.010625859 | 7.3108E-08 | 0.009561585 | 0.00103504 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.062659236 | 0.206352562 | 554.4910679 | 4.589467078 | 0 | 533.2126296 | — | — | 0 | 16.68897119 | 565.614505 | 4.589467078 | 11.03989145 | 533.2126296 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0.008478397 | 0.074225468 | 22.65650786 | 2.525041403 | 0 | 10.94949772 | — | — | 0 | 9.181968739 | 36.55444326 | 2.525041403 | 13.89176648 | 10.94949772 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 6.42561E-05 | — | 0 | — | 0 | — | — | — | 0 | — | 0.111836347 | — | 0.080836725 | — | — | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Media_Water (supernatant) | media_Waste Rock | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | Media_Water (pit lake dry) | media_Soil |
| **Common Name** | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Waste Rock (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 3.59996E-05 | 0.00152111 | 0.038629162 | 6.845E-05 | 0.002778301 | 0.034224983 | — | — | 3.63172E-05 | 0.00152111 | 0.007083691 | 8.18926E-06 | 0.002778496 | 0.004094631 | — | — | 2.03912E-05 | 0.000181984 |
| Arsenic (As) | Arsenic | As | Yes | 0.00079199 | 0.015417326 | 0.107081968 | 0.000423976 | 0.001641747 | 0.089497578 | — | — | 0.000101341 | 0.015417326 | 0.021068122 | 7.79368E-05 | 0.001641756 | 0.016451754 | — | — | 6.26101E-05 | 0.002834066 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.41665E-05 | 0.000141055 | 0.059430073 | 1.41055E-05 | 0.004987435 | 0.054286894 | — | — | 5.83319E-07 | 0.000141055 | 0.024139557 | 4.962E-06 | 0.004987435 | 0.019096876 | — | — | 6.63995E-07 | 4.962E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.06665E-05 | 0.005750721 | 0.071085894 | 5.75072E-05 | 0.049487354 | 0.015785729 | — | — | 4.58211E-06 | 0.005750721 | 0.047834116 | 5.91936E-06 | 0.045608996 | 0.001624865 | — | — | 2.39997E-06 | 0.000591936 |
| Copper (Cu) | Copper | Cu | Yes | 0.001787978 | 0.070297685 | 1.761820802 | 0.02460419 | 0.474055339 | 1.192600228 | — | — | 0.000263361 | 0.070297685 | 1.350754665 | 0.015699516 | 0.528835438 | 0.760977966 | — | — | 0.000385985 | 0.04485576 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.000382662 | 0.012157706 | 0.941122153 | 3.34337E-05 | 0.014722712 | 0.914198679 | — | — | 9.62257E-06 | 0.012157706 | 0.088564276 | 2.6338E-06 | 0.015572594 | 0.072017711 | — | — | 1.3591E-05 | 0.000957746 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.57993E-05 | 0.00015331 | 0.019906635 | 4.21602E-05 | 0.001664685 | 0.018044169 | — | — | 2.31203E-06 | 0.00015331 | 0.004417337 | 6.36254E-06 | 0.001664168 | 0.002723111 | — | — | 5.57993E-07 | 2.31365E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.28995E-07 | — | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 1.42208E-06 | — | 1.4216E-06 | — | — | — | 4.76661E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 1.54998E-06 | 0.000711291 | 0.038309267 | 0.000195605 | 0.004667597 | 0.032728292 | — | — | 6.48269E-06 | 0.000711291 | 0.00843739 | 2.19052E-05 | 0.004667597 | 0.003665146 | — | — | 3.08634E-06 | 7.96555E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.011555859 | 9.67161E-05 | 0.012706245 | 3.14327E-06 | 0.008144925 | 0.004450148 | — | — | 1.13123E-05 | 9.67161E-05 | 0.012128134 | 2.74798E-06 | 0.008144925 | 0.003890507 | — | — | 5.39993E-06 | 8.45533E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 6.66659E-06 | 2.24948E-05 | 0.010632473 | 7.3108E-08 | 0.009561585 | 0.00103504 | — | — | 1.32798E-05 | 2.24948E-05 | 0.010148866 | 4.01354E-08 | 0.009561585 | 0.000568225 | — | — | 6.66659E-06 | 1.23494E-05 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.083545648 | 16.68897119 | 565.5616253 | 4.589467078 | 11.03989145 | 533.2126296 | — | — | 0.030665991 | 16.68897119 | 102.7396165 | 0.752610279 | 11.74795173 | 87.43963063 | — | — | 0.062659236 | 2.736764652 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.006168925 | 9.181968739 | 36.56756822 | 2.525041403 | 13.89176648 | 10.94949772 | — | — | 0.019293885 | 9.181968739 | 14.08339622 | 0.020412004 | 13.89176648 | 0.088513871 | — | — | 0.008478397 | 0.074225468 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.030999622 | — | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0.080899768 | — | 0.080835512 | — | — | — | 6.42561E-05 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 |
| **Common Name** | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.006628909 | 0.00000729 | 0.002778301 | 0.003645 | — | — | 3.63172E-05 | 0.000162 | 1.64568E-06 | 3.14527E-09 | 0 | 1.57264E-06 | — | — | 0 | 6.9895E-08 | 2.33194E-05 | 4.36571E-08 |
| Arsenic (As) | Arsenic | As | Yes | 0.019944412 | 7.32582E-05 | 0.001641747 | 0.015464132 | — | — | 0.000101341 | 0.002663933 | 4.88205E-06 | 1.96497E-08 | 0 | 4.14787E-06 | — | — | 0 | 7.14534E-07 | 5.50938E-05 | 2.21746E-07 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.023373755 | 4.76361E-06 | 0.004987435 | 0.018333336 | — | — | 5.83319E-07 | 4.76361E-05 | 2.57685E-06 | 6.67642E-10 | 0 | 2.5695E-06 | — | — | 0 | 6.67642E-09 | 3.73394E-05 | 9.67436E-09 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.051538285 | 5.44966E-06 | 0.049487354 | 0.001495933 | — | — | 4.58211E-06 | 0.000544966 | 9.90727E-07 | 2.63842E-09 | 0 | 7.24247E-07 | — | — | 0 | 2.63842E-07 | 7.94915E-06 | 2.11695E-08 |
| Copper (Cu) | Copper | Cu | Yes | 1.280871803 | 0.015413245 | 0.474055339 | 0.747102015 | — | — | 0.000263361 | 0.044037843 | 6.31618E-05 | 1.20702E-06 | 0 | 5.85062E-05 | — | — | 0 | 3.44864E-06 | 0.000709542 | 1.35594E-05 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.074421134 | 2.15419E-06 | 0.014722712 | 0.058903305 | — | — | 9.62257E-06 | 0.000783341 | 4.23347E-05 | 1.52787E-09 | 0 | 4.17775E-05 | — | — | 0 | 5.55589E-07 | 0.000651968 | 2.35297E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.0042714 | 6.01997E-06 | 0.001664685 | 0.002576493 | — | — | 2.31203E-06 | 2.18908E-05 | 8.42067E-07 | 1.9464E-09 | 0 | 8.33043E-07 | — | — | 0 | 7.07783E-09 | 6.71112E-06 | 1.54037E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 0 | — | 0 | — | — | — | 0 | — | 4.02185E-11 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.007770517 | 1.80073E-05 | 0.004667597 | 0.003012949 | — | — | 6.48269E-06 | 6.54811E-05 | 1.54263E-06 | 8.97117E-09 | 0 | 1.50104E-06 | — | — | 0 | 3.26224E-08 | 3.38552E-05 | 1.96884E-07 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.011966883 | 2.6325E-06 | 0.008144925 | 0.003727013 | — | — | 1.13123E-05 | 0.000081 | 2.28952E-07 | 1.58167E-10 | 0 | 2.23928E-07 | — | — | 0 | 4.86667E-09 | 8.69869E-06 | 6.00929E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.010139054 | 0.000000039 | 0.009561585 | 0.00055215 | — | — | 1.32798E-05 | 0.000012 | 5.1296E-08 | 3.54587E-12 | 0 | 5.02014E-08 | — | — | 0 | 1.09104E-09 | 8.07488E-07 | 5.58182E-11 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 95.14349914 | 0.695863325 | 11.03989145 | 80.84666628 | — | — | 0.030665991 | 2.53041209 | 0.025628387 | 0.000212124 | 0 | 0.024644905 | — | — | 0 | 0.000771359 | 0.330139902 | 0.002732535 |
| Aluminum (Al) | Aluminum | Al | Yes | 13.91106036 | — | 13.89176648 | — | — | — | 0.019293885 | — | 0.001026644 | 0.000114418 | 0 | 0.000496159 | — | — | 0 | 0.000416066 | 0.008258458 | 0.000920395 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 |
| **Common Name** | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.7092E-07 | 2.18285E-05 | — | — | 6.15574E-09 | 9.70158E-07 | 2.44918E-05 | 4.68097E-08 | 0 | 2.34048E-05 | — | — | 0 | 1.04021E-06 | 2.46887E-05 | 4.68097E-08 | 1.94286E-07 | 2.34048E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0 | 4.68086E-05 | — | — | 0 | 8.0635E-06 | 5.99876E-05 | 2.41443E-07 | 0 | 5.09664E-05 | — | — | 0 | 8.77974E-06 | 5.9997E-05 | 2.41443E-07 | 8.88591E-09 | 5.09664E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | 3.7233E-05 | — | — | 0 | 9.67436E-08 | 3.99229E-05 | 1.03437E-08 | 0 | 3.98091E-05 | — | — | 0 | 1.03437E-07 | 3.99229E-05 | 1.03437E-08 | 0 | 3.98091E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | 5.81103E-06 | — | — | 0 | 2.11695E-06 | 8.94216E-06 | 2.3814E-08 | 0 | 6.53695E-06 | — | — | 0 | 2.3814E-06 | 8.94216E-06 | 2.3814E-08 | 0 | 6.53695E-06 |
| Copper (Cu) | Copper | Cu | Yes | 0 | 0.000657242 | — | — | 0 | 3.8741E-05 | 0.000772886 | 1.47699E-05 | 0 | 0.000715916 | — | — | 0 | 4.21996E-05 | 0.055583418 | 1.47699E-05 | 0.0547801 | 0.000715916 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 3.09648E-18 | 0.000643388 | — | — | 2.02382E-21 | 8.55626E-06 | 0.000694399 | 2.50611E-08 | 0 | 0.000685261 | — | — | 0 | 9.11311E-06 | 0.001544836 | 2.50611E-08 | 0.000849882 | 0.000685261 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 4.70156E-08 | 6.59263E-06 | — | — | 6.52987E-11 | 5.60133E-08 | 7.5081E-06 | 1.73547E-08 | 0 | 7.42763E-06 | — | — | 0 | 6.31078E-08 | 7.5081E-06 | 1.73547E-08 | 0 | 7.42763E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.01627E-11 | — | — | — | 5.57809E-14 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.04985E-19 | 3.29424E-05 | — | — | 8.40246E-22 | 7.15944E-07 | 3.54014E-05 | 2.05876E-07 | 0 | 3.44468E-05 | — | — | 0 | 7.48641E-07 | 3.54014E-05 | 2.05876E-07 | 0 | 3.44468E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.40513E-18 | 8.50777E-06 | — | — | 1.95154E-21 | 1.84901E-07 | 8.92834E-06 | 6.16795E-09 | 0 | 8.73239E-06 | — | — | 0 | 1.89783E-07 | 8.92834E-06 | 6.16795E-09 | 0 | 8.73239E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.66533E-18 | 7.90257E-07 | — | — | 2.31294E-21 | 1.71748E-08 | 8.58926E-07 | 5.9374E-11 | 0 | 8.40598E-07 | — | — | 0 | 1.82689E-08 | 8.58926E-07 | 5.9374E-11 | 0 | 8.40598E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | 0.317470876 | — | — | 0 | 0.009936491 | 0.355829001 | 0.002945161 | 0 | 0.342174163 | — | — | 0 | 0.010709676 | 1.065856083 | 0.002945161 | 0.708060272 | 0.342174163 |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | 0.003991169 | — | — | 0 | 0.003346893 | 0.009287352 | 0.001035065 | 0 | 0.004488416 | — | — | 0 | 0.003763871 | 0.009287352 | 0.001035065 | 0 | 0.004488416 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.53965E-09 | 1.04021E-06 | 0.006630554 | 7.29315E-06 | 0.002778301 | 0.003646573 | — | — | 3.63172E-05 | 0.00016207 | 0.006652228 | 7.33366E-06 | 0.002778772 | 0.003666829 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 5.48506E-10 | 8.77974E-06 | 0.019949294 | 7.32778E-05 | 0.001641747 | 0.01546828 | — | — | 0.000101341 | 0.002664648 | 0.019999506 | 7.34799E-05 | 0.001641747 | 0.015510941 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.03437E-07 | 0.023376331 | 4.76427E-06 | 0.004987435 | 0.018335906 | — | — | 5.83319E-07 | 4.76427E-05 | 0.023411094 | 4.77328E-06 | 0.004987435 | 0.018370569 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 2.3814E-06 | 0.051539276 | 5.4523E-06 | 0.049487354 | 0.001496657 | — | — | 4.58211E-06 | 0.00054523 | 0.046477217 | 5.47083E-06 | 0.044418806 | 0.001501744 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 3.0433E-05 | 4.21906E-05 | 1.280934965 | 0.015414452 | 0.474055339 | 0.747160521 | — | — | 0.000263361 | 0.044041292 | 1.281581345 | 0.015426805 | 0.474055339 | 0.747759256 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 5.55472E-07 | 9.11311E-06 | 0.074463469 | 2.15571E-06 | 0.014722712 | 0.058945082 | — | — | 9.62257E-06 | 0.000783896 | 0.075073102 | 2.17772E-06 | 0.014722712 | 0.059546693 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 6.31078E-08 | 0.004272242 | 6.02192E-06 | 0.001664685 | 0.002577326 | — | — | 2.31203E-06 | 2.18979E-05 | 0.004278111 | 6.03537E-06 | 0.001664732 | 0.002583085 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 1.42406E-06 | — | 1.42208E-06 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 7.48641E-07 | 0.007772059 | 1.80163E-05 | 0.004667597 | 0.00301445 | — | — | 6.48269E-06 | 6.55137E-05 | 0.007804372 | 1.82042E-05 | 0.004667597 | 0.003045892 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.89783E-07 | 0.011967112 | 2.63266E-06 | 0.008144925 | 0.003727236 | — | — | 1.13123E-05 | 8.10049E-05 | 0.011975581 | 2.63851E-06 | 0.008144925 | 0.00373552 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.82689E-08 | 0.010139105 | 3.90035E-08 | 0.009561585 | 0.0005522 | — | — | 1.32798E-05 | 1.20011E-05 | 0.010139861 | 3.90558E-08 | 0.009561585 | 0.00055294 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.00196681 | 0.010709676 | 95.16912753 | 0.696075448 | 11.03989145 | 80.87131119 | — | — | 0.030665991 | 2.531183449 | 95.47363905 | 0.69859586 | 11.03989145 | 81.16413716 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.003763871 | 13.91208701 | 0.000114418 | 13.89176648 | 0.000496159 | — | — | 0.019293885 | 0.000416066 | 13.91931882 | 0.000920395 | 13.89176648 | 0.003991169 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0.080948997 | — | 0.080836725 | — | — | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 3.63234E-05 | 0.0016297 | 0.0066534 | 7.33681E-06 | 0.002778301 | 0.003668405 | — | — | 3.63172E-05 | 0.0016304 | 0.006653597 | 7.33681E-06 | 0.002778496 | 0.003668405 | — | — | 3.63198E-05 | 0.00016304 |
| Arsenic (As) | Arsenic | As | Yes | 0.000101341 | 0.002671997 | 0.020004399 | 7.34996E-05 | 0.001641747 | 0.015515099 | — | — | 0.000101341 | 0.002672713 | 0.020004409 | 7.34996E-05 | 0.001641756 | 0.015515099 | — | — | 0.000101342 | 0.002672713 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 5.83319E-07 | 4.77328E-05 | 0.023413677 | 4.77395E-06 | 0.004987435 | 0.018373145 | — | — | 5.83319E-07 | 4.77395E-05 | 0.023413677 | 4.77395E-06 | 0.004987435 | 0.018373145 | — | — | 5.83319E-07 | 4.77395E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 4.1128E-06 | 0.000547083 | 0.051547227 | 5.47348E-06 | 0.049487354 | 0.00150247 | — | — | 4.58211E-06 | 0.000547348 | 0.04766851 | 5.47348E-06 | 0.045608996 | 0.00150247 | — | — | 4.223E-06 | 0.000547348 |
| Copper (Cu) | Copper | Cu | Yes | 0.000263361 | 0.044076585 | 1.281644689 | 0.015428015 | 0.474055339 | 0.747817931 | — | — | 0.000263361 | 0.044080043 | 1.336455221 | 0.015428015 | 0.528835438 | 0.747817931 | — | — | 0.000293794 | 0.044080043 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 9.62257E-06 | 0.000791897 | 0.075115533 | 2.17925E-06 | 0.014722712 | 0.059588565 | — | — | 9.62257E-06 | 0.000792454 | 0.075965971 | 2.17925E-06 | 0.015572594 | 0.059588565 | — | — | 1.0178E-05 | 0.000792454 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.3121E-06 | 2.19468E-05 | 0.004278908 | 6.03733E-06 | 0.001664685 | 0.00258392 | — | — | 2.31203E-06 | 2.19539E-05 | 0.004278391 | 6.03733E-06 | 0.001664168 | 0.00258392 | — | — | 2.31132E-06 | 2.19539E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.97509E-09 | — | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 1.42358E-06 | — | 1.4216E-06 | — | — | — | 1.97442E-09 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.48269E-06 | 6.6197E-05 | 0.007805918 | 1.82132E-05 | 0.004667597 | 0.003047396 | — | — | 6.48269E-06 | 6.62297E-05 | 0.007805918 | 1.82132E-05 | 0.004667597 | 0.003047396 | — | — | 6.48269E-06 | 6.62297E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.13123E-05 | 8.11849E-05 | 0.011975811 | 2.63867E-06 | 0.008144925 | 0.003735745 | — | — | 1.13123E-05 | 8.11898E-05 | 0.011975811 | 2.63867E-06 | 0.008144925 | 0.003735745 | — | — | 1.13123E-05 | 8.11898E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.32798E-05 | 1.20172E-05 | 0.010139913 | 3.90594E-08 | 0.009561585 | 0.000552991 | — | — | 1.32798E-05 | 1.20183E-05 | 0.010139913 | 3.90594E-08 | 0.009561585 | 0.000552991 | — | — | 1.32798E-05 | 1.20183E-05 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.030665991 | 2.540348581 | 95.49932814 | 0.698808486 | 11.03989145 | 81.18884045 | — | — | 0.030665991 | 2.541121767 | 96.20935523 | 0.698808486 | 11.74795173 | 81.18884045 | — | — | 0.032632801 | 2.541121767 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.019293885 | 0.003346893 | 13.92034771 | 0.001035065 | 13.89176648 | 0.004488416 | — | — | 0.019293885 | 0.003763871 | 13.92034771 | 0.001035065 | 13.89176648 | 0.004488416 | — | — | 0.019293885 | 0.003763871 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.000112272 | — | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0.080947782 | — | 0.080835512 | — | — | — | 0.00011227 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 |
| **Common Name** | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.006628909 | 0.00000729 | 0.002778301 | 0.003645 | — | — | 3.63172E-05 | 0.000162 | 1.64568E-06 | 3.14527E-09 | 0 | 1.57264E-06 | — | — | 0 | 6.9895E-08 | 2.33194E-05 | 4.36571E-08 |
| Arsenic (As) | Arsenic | As | Yes | 0.019944412 | 7.32582E-05 | 0.001641747 | 0.015464132 | — | — | 0.000101341 | 0.002663933 | 4.88205E-06 | 1.96497E-08 | 0 | 4.14787E-06 | — | — | 0 | 7.14534E-07 | 5.50938E-05 | 2.21746E-07 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.023373755 | 4.76361E-06 | 0.004987435 | 0.018333336 | — | — | 5.83319E-07 | 4.76361E-05 | 2.57685E-06 | 6.67642E-10 | 0 | 2.5695E-06 | — | — | 0 | 6.67642E-09 | 3.73394E-05 | 9.67436E-09 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.051538285 | 5.44966E-06 | 0.049487354 | 0.001495933 | — | — | 4.58211E-06 | 0.000544966 | 9.90727E-07 | 2.63842E-09 | 0 | 7.24247E-07 | — | — | 0 | 2.63842E-07 | 7.94915E-06 | 2.11695E-08 |
| Copper (Cu) | Copper | Cu | Yes | 1.280871803 | 0.015413245 | 0.474055339 | 0.747102015 | — | — | 0.000263361 | 0.044037843 | 6.31618E-05 | 1.20702E-06 | 0 | 5.85062E-05 | — | — | 0 | 3.44864E-06 | 0.000709542 | 1.35594E-05 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.074421134 | 2.15419E-06 | 0.014722712 | 0.058903305 | — | — | 9.62257E-06 | 0.000783341 | 4.23347E-05 | 1.52787E-09 | 0 | 4.17775E-05 | — | — | 0 | 5.55589E-07 | 0.000651968 | 2.35297E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.0042714 | 6.01997E-06 | 0.001664685 | 0.002576493 | — | — | 2.31203E-06 | 2.18908E-05 | 8.42067E-07 | 1.9464E-09 | 0 | 8.33043E-07 | — | — | 0 | 7.07783E-09 | 6.71112E-06 | 1.54037E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 0 | — | 0 | — | — | — | 0 | — | 4.02185E-11 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.007770517 | 1.80073E-05 | 0.004667597 | 0.003012949 | — | — | 6.48269E-06 | 6.54811E-05 | 1.54263E-06 | 8.97117E-09 | 0 | 1.50104E-06 | — | — | 0 | 3.26224E-08 | 3.38552E-05 | 1.96884E-07 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.011966883 | 2.6325E-06 | 0.008144925 | 0.003727013 | — | — | 1.13123E-05 | 0.000081 | 2.28952E-07 | 1.58167E-10 | 0 | 2.23928E-07 | — | — | 0 | 4.86667E-09 | 8.69869E-06 | 6.00929E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.010139054 | 0.000000039 | 0.009561585 | 0.00055215 | — | — | 1.32798E-05 | 0.000012 | 5.1296E-08 | 3.54587E-12 | 0 | 5.02014E-08 | — | — | 0 | 1.09104E-09 | 8.07488E-07 | 5.58182E-11 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 95.14349914 | 0.695863325 | 11.03989145 | 80.84666628 | — | — | 0.030665991 | 2.53041209 | 0.025628387 | 0.000212124 | 0 | 0.024644905 | — | — | 0 | 0.000771359 | 0.330139902 | 0.002732535 |
| Aluminum (Al) | Aluminum | Al | Yes | 13.91106036 | — | 13.89176648 | — | — | — | 0.019293885 | — | 0.001026644 | 0.000114418 | 0 | 0.000496159 | — | — | 0 | 0.000416066 | 0.008258458 | 0.000920395 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 |
| **Common Name** | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.7092E-07 | 2.18285E-05 | — | — | 6.15574E-09 | 9.70158E-07 | 2.44918E-05 | 4.68097E-08 | 0 | 2.34048E-05 | — | — | 0 | 1.04021E-06 | 2.46887E-05 | 4.68097E-08 | 1.94286E-07 | 2.34048E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0 | 4.68086E-05 | — | — | 0 | 8.0635E-06 | 5.99876E-05 | 2.41443E-07 | 0 | 5.09664E-05 | — | — | 0 | 8.77974E-06 | 5.9997E-05 | 2.41443E-07 | 8.88591E-09 | 5.09664E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0 | 3.7233E-05 | — | — | 0 | 9.67436E-08 | 3.99229E-05 | 1.03437E-08 | 0 | 3.98091E-05 | — | — | 0 | 1.03437E-07 | 3.99229E-05 | 1.03437E-08 | 0 | 3.98091E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0 | 5.81103E-06 | — | — | 0 | 2.11695E-06 | 8.94216E-06 | 2.3814E-08 | 0 | 6.53695E-06 | — | — | 0 | 2.3814E-06 | 8.94216E-06 | 2.3814E-08 | 0 | 6.53695E-06 |
| Copper (Cu) | Copper | Cu | Yes | 0 | 0.000657242 | — | — | 0 | 3.8741E-05 | 0.000772886 | 1.47699E-05 | 0 | 0.000715916 | — | — | 0 | 4.21996E-05 | 0.055583418 | 1.47699E-05 | 0.0547801 | 0.000715916 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 3.09648E-18 | 0.000643388 | — | — | 2.02382E-21 | 8.55626E-06 | 0.000694399 | 2.50611E-08 | 0 | 0.000685261 | — | — | 0 | 9.11311E-06 | 0.001544836 | 2.50611E-08 | 0.000849882 | 0.000685261 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 4.70156E-08 | 6.59263E-06 | — | — | 6.52987E-11 | 5.60133E-08 | 7.5081E-06 | 1.73547E-08 | 0 | 7.42763E-06 | — | — | 0 | 6.31078E-08 | 7.5081E-06 | 1.73547E-08 | 0 | 7.42763E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.01627E-11 | — | — | — | 5.57809E-14 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.04985E-19 | 3.29424E-05 | — | — | 8.40246E-22 | 7.15944E-07 | 3.54014E-05 | 2.05876E-07 | 0 | 3.44468E-05 | — | — | 0 | 7.48641E-07 | 3.54014E-05 | 2.05876E-07 | 0 | 3.44468E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.40513E-18 | 8.50777E-06 | — | — | 1.95154E-21 | 1.84901E-07 | 8.92834E-06 | 6.16795E-09 | 0 | 8.73239E-06 | — | — | 0 | 1.89783E-07 | 8.92834E-06 | 6.16795E-09 | 0 | 8.73239E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.66533E-18 | 7.90257E-07 | — | — | 2.31294E-21 | 1.71748E-08 | 8.58926E-07 | 5.9374E-11 | 0 | 8.40598E-07 | — | — | 0 | 1.82689E-08 | 8.58926E-07 | 5.9374E-11 | 0 | 8.40598E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0 | 0.317470876 | — | — | 0 | 0.009936491 | 0.355829001 | 0.002945161 | 0 | 0.342174163 | — | — | 0 | 0.010709676 | 1.065856083 | 0.002945161 | 0.708060272 | 0.342174163 |
| Aluminum (Al) | Aluminum | Al | Yes | 0 | 0.003991169 | — | — | 0 | 0.003346893 | 0.009287352 | 0.001035065 | 0 | 0.004488416 | — | — | 0 | 0.003763871 | 0.009287352 | 0.001035065 | 0 | 0.004488416 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0 | — | — | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 2.53965E-09 | 1.04021E-06 | 0.006630554 | 7.29315E-06 | 0.002778301 | 0.003646573 | — | — | 3.63172E-05 | 0.00016207 | 0.006652228 | 7.33366E-06 | 0.002778772 | 0.003666829 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 5.48506E-10 | 8.77974E-06 | 0.019949294 | 7.32778E-05 | 0.001641747 | 0.01546828 | — | — | 0.000101341 | 0.002664648 | 0.019999506 | 7.34799E-05 | 0.001641747 | 0.015510941 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.03437E-07 | 0.023376331 | 4.76427E-06 | 0.004987435 | 0.018335906 | — | — | 5.83319E-07 | 4.76427E-05 | 0.023411094 | 4.77328E-06 | 0.004987435 | 0.018370569 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 2.3814E-06 | 0.051539276 | 5.4523E-06 | 0.049487354 | 0.001496657 | — | — | 4.58211E-06 | 0.00054523 | 0.046477217 | 5.47083E-06 | 0.044418806 | 0.001501744 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 3.0433E-05 | 4.21996E-05 | 1.280934965 | 0.015414452 | 0.474055339 | 0.747160521 | — | — | 0.000263361 | 0.044041292 | 1.281581345 | 0.015426805 | 0.474055339 | 0.747759256 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 5.55472E-07 | 9.11311E-06 | 0.074463469 | 2.15571E-06 | 0.014722712 | 0.058945082 | — | — | 9.62257E-06 | 0.000783896 | 0.075073102 | 2.17772E-06 | 0.014722712 | 0.059546693 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 6.31078E-08 | 0.004272242 | 6.02192E-06 | 0.001664685 | 0.002577326 | — | — | 2.31203E-06 | 2.18979E-05 | 0.004278111 | 6.03537E-06 | 0.001664732 | 0.002583085 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 1.42406E-06 | — | 1.42208E-06 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 7.48641E-07 | 0.007772059 | 1.80163E-05 | 0.004667597 | 0.00301445 | — | — | 6.48269E-06 | 6.55137E-05 | 0.007804372 | 1.82042E-05 | 0.004667597 | 0.003045892 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.89783E-07 | 0.011967112 | 2.63266E-06 | 0.008144925 | 0.003727236 | — | — | 1.13123E-05 | 8.10049E-05 | 0.011975581 | 2.63851E-06 | 0.008144925 | 0.00373552 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.82689E-08 | 0.010139105 | 3.90035E-08 | 0.009561585 | 0.0005522 | — | — | 1.32798E-05 | 1.20011E-05 | 0.010139861 | 3.90558E-08 | 0.009561585 | 0.00055294 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.00196681 | 0.010709676 | 95.16912753 | 0.696075448 | 11.03989145 | 80.87131119 | — | — | 0.030665991 | 2.531183449 | 95.47363905 | 0.69859586 | 11.03989145 | 81.16413716 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.003763871 | 13.91208701 | 0.000114418 | 13.89176648 | 0.000496159 | — | — | 0.019293885 | 0.000416066 | 13.91931882 | 0.000920395 | 13.89176648 | 0.003991169 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0.080948997 | — | 0.080836725 | — | — | — |

**TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK**

**Mallard Duck**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_2 | Plant_3 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 | — | berries | macrophytes | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | 0.066665854 | 0.0012 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) | Concentration in Mallard Duck (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_2 (mg/kg) | Concentration in Mallard Duck from the consumption of Plant_3 (mg/kg) | Concentration in Mallard Duck from the consumption of Invertebrate_1 (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of — (mg/kg) | Concentration in Mallard Duck from the consumption of media_Water (dry) (mg/kg) | Concentration in Mallard Duck from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 3.63234E-05 | 0.00016297 | 0.0066534 | 7.33681E-06 | 0.002778301 | 0.003668405 | — | — | 3.63172E-05 | 0.00016304 | 0.006653597 | 7.33681E-06 | 0.002778496 | 0.003668405 | — | — | 3.63198E-05 | 0.00016304 |
| Arsenic (As) | Arsenic | As | Yes | 0.000101341 | 0.002671997 | 0.020004399 | 7.34996E-05 | 0.001641747 | 0.015515099 | — | — | 0.000101341 | 0.002672713 | 0.020004409 | 7.34996E-05 | 0.001641756 | 0.015515099 | — | — | 0.000101342 | 0.002672713 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 5.83319E-07 | 4.77328E-05 | 0.023413677 | 4.77395E-06 | 0.004987435 | 0.018373145 | — | — | 5.83319E-07 | 4.77395E-05 | 0.023413677 | 4.77395E-06 | 0.004987435 | 0.018373145 | — | — | 5.83319E-07 | 4.77395E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 4.1128E-06 | 0.000547083 | 0.051547227 | 5.47348E-06 | 0.049487354 | 0.00150247 | — | — | 4.58211E-06 | 0.000547348 | 0.04766851 | 5.47348E-06 | 0.045608996 | 0.00150247 | — | — | 4.223E-06 | 0.000547348 |
| Copper (Cu) | Copper | Cu | Yes | 0.000263361 | 0.044076585 | 1.281644689 | 0.015428015 | 0.474055339 | 0.747817931 | — | — | 0.000263361 | 0.044080043 | 1.336455221 | 0.015428015 | 0.528835438 | 0.747817931 | — | — | 0.000293794 | 0.044080043 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 9.62257E-06 | 0.000791897 | 0.075115533 | 2.17925E-06 | 0.014722712 | 0.059588565 | — | — | 9.62257E-06 | 0.000792454 | 0.075965971 | 2.17925E-06 | 0.015572594 | 0.059588565 | — | — | 1.0178E-05 | 0.000792454 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.3121E-06 | 2.19468E-05 | 0.004278908 | 6.03733E-06 | 0.001664685 | 0.00258392 | — | — | 2.31203E-06 | 2.19539E-05 | 0.004278391 | 6.03733E-06 | 0.001664168 | 0.00258392 | — | — | 2.31132E-06 | 2.19539E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.97509E-09 | — | 1.42402E-06 | — | 1.42204E-06 | — | — | — | 1.97503E-09 | — | 1.42358E-06 | — | 1.4216E-06 | — | — | — | 1.97442E-09 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.48269E-06 | 6.6197E-05 | 0.007805918 | 1.82132E-05 | 0.004667597 | 0.003047396 | — | — | 6.48269E-06 | 6.62297E-05 | 0.007805918 | 1.82132E-05 | 0.004667597 | 0.003047396 | — | — | 6.48269E-06 | 6.62297E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.13123E-05 | 8.11849E-05 | 0.011975811 | 2.63867E-06 | 0.008144925 | 0.003735745 | — | — | 1.13123E-05 | 8.11898E-05 | 0.011975811 | 2.63867E-06 | 0.008144925 | 0.003735745 | — | — | 1.13123E-05 | 8.11898E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.32798E-05 | 1.20172E-05 | 0.010139913 | 3.90594E-08 | 0.009561585 | 0.000552991 | — | — | 1.32798E-05 | 1.20183E-05 | 0.010139913 | 3.90594E-08 | 0.009561585 | 0.000552991 | — | — | 1.32798E-05 | 1.20183E-05 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.030665991 | 2.540348581 | 95.49932814 | 0.698808486 | 11.03989145 | 81.18884045 | — | — | 0.030665991 | 2.541121767 | 96.20935523 | 0.698808486 | 11.74795173 | 81.18884045 | — | — | 0.032632801 | 2.541121767 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.019293885 | 0.003346893 | 13.92034771 | 0.001035065 | 13.89176648 | 0.004488416 | — | — | 0.019293885 | 0.003763871 | 13.92034771 | 0.001035065 | 13.89176648 | 0.004488416 | — | — | 0.019293885 | 0.003763871 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.000112272 | — | 0.080948997 | — | 0.080836725 | — | — | — | 0.000112272 | — | 0.080947782 | — | 0.080835512 | — | — | — | 0.00011227 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 |
| Common Name | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| Chemical Property | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| Wet Ingestion Rates | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001297666 | 0.000491832 | 2.41445E-05 | 0.00067068 | — | — | 2.15854E-05 | 0.000089424 | 0.011981847 | 0.004618091 | 0.000226706 | 0.006297397 | — | — | 0 | 0.000839653 | 0.012003244 | 0.004618091 |
| Arsenic (As) | Arsenic | As | Yes | 0.006074542 | 0.001455786 | 0.000242631 | 0.0028454 | — | — | 6.02329E-05 | 0.001470491 | 0.034807389 | 0.00842526 | 0.00140421 | 0.016467554 | — | — | 0 | 0.008510364 | 0.035278114 | 0.00842526 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.003506142 | 9.03894E-05 | 1.57771E-05 | 0.003373334 | — | — | 3.467E-07 | 2.62951E-05 | 0.010381021 | 0.000267652 | 4.67175E-05 | 0.009988788 | — | — | 0 | 7.78625E-05 | 0.010389441 | 0.000267652 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000762298 | 0.000165452 | 1.80493E-05 | 0.000275252 | — | — | 2.72341E-06 | 0.000300821 | 0.008015355 | 0.001745919 | 0.000190464 | 0.002904574 | — | — | 0 | 0.003174398 | 0.008021695 | 0.001745919 |
| Copper (Cu) | Copper | Cu | Yes | 0.480378645 | 0.267397786 | 0.051048668 | 0.137466771 | — | — | 0.000156531 | 0.02430889 | 0.766579385 | 0.426847544 | 0.081489077 | 0.219438442 | — | — | 0 | 0.038804322 | 0.767642083 | 0.426847544 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.011818566 | 0.0005351 | 7.13467E-06 | 0.010838208 | — | — | 5.71925E-06 | 0.000432404 | 0.183339272 | 0.008304929 | 0.000110732 | 0.168212557 | — | — | 0 | 0.006711054 | 0.18356671 | 0.008304929 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.000839773 | 0.000332302 | 1.99381E-05 | 0.000474075 | — | — | 1.37417E-06 | 1.20837E-05 | 0.00587163 | 0.002327241 | 0.000139634 | 0.003320127 | — | — | 0 | 8.4627E-05 | 0.005904795 | 0.002327241 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 0 | — | — | — | — | — | 0 | — | 2.54976E-07 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.0006542 | 1.78921E-07 | 5.96402E-05 | 0.000554383 | — | — | 3.85304E-06 | 3.61456E-05 | 0.007064426 | 1.94353E-06 | 0.000647844 | 0.006022006 | — | — | 0 | 0.000392633 | 0.007065347 | 1.94353E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000750843 | 4.91832E-06 | 8.71884E-06 | 0.00068577 | — | — | 6.72353E-06 | 0.000044712 | 0.000888498 | 5.8726E-06 | 1.04105E-05 | 0.000818827 | — | — | 0 | 5.33873E-05 | 0.007756809 | 5.8726E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.000119885 | 3.6432E-06 | 1.29168E-07 | 0.000101596 | — | — | 7.89296E-06 | 0.000006624 | 0.000209936 | 6.82941E-06 | 2.42134E-07 | 0.000190447 | — | — | 0 | 1.24171E-05 | 0.000213898 | 6.82941E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 28.19841385 | 9.602913883 | 2.304699332 | 14.8757866 | — | — | 0.018226562 | 1.396787474 | 185.8583966 | 63.33464567 | 15.20031496 | 98.11112384 | — | — | 0 | 9.212312098 | 185.9080526 | 63.33464567 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.011467465 | — | — | — | — | — | 0.011467465 | — | 154.8283769 | 139.3822855 | 8.362937127 | 2.014707581 | — | — | 0 | 5.068446744 | 154.8320435 | 139.3822855 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 0 | — | — | — | — | — | 0 | — | 0.018424858 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.000226706 | 0.006297397 | — | — | 2.13966E-05 | 0.000839653 | 0.011981847 | 0.004618091 | 0.000226706 | 0.006297397 | — | — | 0 | 0.000839653 | 0.000169531 | 6.06702E-05 | 2.97836E-06 | 8.27321E-05 |
| Arsenic (As) | Arsenic | As | Yes | 0.00140421 | 0.016467554 | — | — | 0.000470725 | 0.008510364 | 0.034807389 | 0.00842526 | 0.00140421 | 0.016467554 | — | — | 0 | 0.008510364 | 0.000421318 | 9.29742E-05 | 1.54957E-05 | 0.000181722 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 4.67175E-05 | 0.009988788 | — | — | 8.41996E-06 | 7.78625E-05 | 0.010381021 | 0.000267652 | 4.67175E-05 | 0.009988788 | — | — | 0 | 7.78625E-05 | 0.000146403 | 3.7645E-06 | 6.57077E-07 | 0.000140491 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000190464 | 0.002904574 | — | — | 6.33974E-06 | 0.003174398 | 0.008015355 | 0.001745919 | 0.000190464 | 0.002904574 | — | — | 0 | 0.003174398 | 6.68927E-05 | 1.426E-05 | 1.55563E-06 | 2.37234E-05 |
| Copper (Cu) | Copper | Cu | Yes | 0.081489077 | 0.219438442 | — | — | 0.001062698 | 0.038804322 | 0.766579385 | 0.426847544 | 0.081489077 | 0.219438442 | — | — | 0 | 0.038804322 | 0.009148595 | 0.004966388 | 0.000948129 | 0.002553175 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.000110732 | 0.168212557 | — | — | 0.000227438 | 0.006711054 | 0.183339272 | 0.008304929 | 0.000110732 | 0.168212557 | — | — | 0 | 0.006711054 | 0.002638125 | 0.000119136 | 1.58848E-06 | 0.002413051 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.000139634 | 0.003320127 | — | — | 3.31647E-05 | 8.4627E-05 | 0.00587163 | 0.002327241 | 0.000139634 | 0.003320127 | — | — | 0 | 8.4627E-05 | 4.80417E-05 | 1.89101E-05 | 1.1346E-06 | 2.69778E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 2.54976E-07 | — | 0 | — | — | — | — | — | 0 | — | 2.83307E-10 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.000647844 | 0.006022006 | — | — | 9.21243E-07 | 0.000392633 | 0.007064426 | 1.94353E-06 | 0.000647844 | 0.006022006 | — | — | 0 | 0.000392633 | 0.000142612 | 3.873E-08 | 1.291E-05 | 0.000120004 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.04105E-05 | 0.000818827 | — | — | 0.006868312 | 5.33873E-05 | 0.000888498 | 5.8726E-06 | 1.04105E-05 | 0.000818827 | — | — | 0 | 5.33873E-05 | 3.58521E-05 | 2.15754E-07 | 3.82473E-07 | 3.0083E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 2.42134E-07 | 0.000190447 | — | — | 3.96234E-06 | 1.24171E-05 | 0.000209936 | 6.82941E-06 | 2.42134E-07 | 0.000190447 | — | — | 0 | 1.24171E-05 | 7.22282E-06 | 1.06067E-07 | 3.76055E-09 | 2.95781E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 15.20031496 | 98.11112384 | — | — | 0.049655983 | 9.212312098 | 185.8583966 | 63.33464567 | 15.20031496 | 98.11112384 | — | — | 0 | 9.212312098 | 2.335307925 | 0.783107971 | 0.187945913 | 1.213105439 |
| Aluminum (Al) | Aluminum | Al | Yes | 8.362937127 | 2.014707581 | — | — | 0.003666547 | 5.068446744 | 154.8283769 | 139.3822855 | 8.362937127 | 2.014707581 | — | — | 0 | 5.068446744 | 1.256645372 | 1.126742606 | 0.067604556 | 0.016286552 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0.018424858 | — | 0 | — | — | — | — | — | 0 | — | 3.81911E-05 | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| Common Name | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| Chemical Property | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| Wet Ingestion Rates | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 1.21197E-05 | 1.1031E-05 | 0.011981847 | 0.004618091 | 0.000226706 | 0.006297397 | — | — | 0 | 0.000839653 | 0.012003244 | 0.004618091 | 0.000226706 | 0.006297397 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 3.72128E-05 | 9.39133E-05 | 0.034807389 | 0.00842526 | 0.00140421 | 0.016467554 | — | — | 0 | 0.008510364 | 0.035278114 | 0.00842526 | 0.00140421 | 0.016467554 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 3.9465E-07 | 1.09513E-06 | 0.010381021 | 0.000267652 | 4.67175E-05 | 0.009988788 | — | — | 0 | 7.78625E-05 | 0.010389441 | 0.000267652 | 4.67175E-05 | 0.009988788 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 1.42644E-06 | 2.59272E-05 | 0.008015355 | 0.001745919 | 0.000190464 | 0.002904574 | — | — | 0 | 0.003174398 | 0.008021695 | 0.001745919 | 0.000190464 | 0.002904574 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 0.000229413 | 0.00045149 | 0.766579385 | 0.426847544 | 0.081489077 | 0.219438442 | — | — | 0 | 0.038804322 | 0.767642083 | 0.426847544 | 0.081489077 | 0.219438442 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 8.07794E-06 | 9.62717E-05 | 0.183339272 | 0.008304929 | 0.000110732 | 0.168212557 | — | — | 0 | 0.006711054 | 0.18356671 | 0.008304929 | 0.000110732 | 0.168212557 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 3.31647E-07 | 6.87638E-07 | 0.00587163 | 0.002327241 | 0.000139634 | 0.003320127 | — | — | 0 | 8.4627E-05 | 0.005904795 | 0.002327241 | 0.000139634 | 0.003320127 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 2.83307E-10 | — | 0 | — | — | — | — | — | 0 | — | 2.54976E-07 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 1.83439E-06 | 7.82424E-06 | 0.007064426 | 1.94353E-06 | 0.000647844 | 0.006022006 | — | — | 0 | 0.000392633 | 0.007065347 | 1.94353E-06 | 0.000647844 | 0.006022006 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 3.20949E-06 | 1.9614E-06 | 0.000888498 | 5.8726E-06 | 1.04105E-05 | 0.000818827 | — | — | 0 | 5.33873E-05 | 0.007756809 | 5.8726E-06 | 1.04105E-05 | 0.000818827 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 3.96234E-06 | 1.92849E-07 | 0.000209936 | 6.82941E-06 | 2.42134E-07 | 0.000190447 | — | — | 0 | 1.24171E-05 | 0.000213898 | 6.82941E-06 | 2.42134E-07 | 0.000190447 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.037241987 | 0.113906614 | 185.8583966 | 63.33464567 | 15.20031496 | 98.11112384 | — | — | 0 | 9.212312098 | 185.9080526 | 63.33464567 | 15.20031496 | 98.11112384 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0.005039199 | 0.040972458 | 154.8283769 | 139.3822855 | 8.362937127 | 2.014707581 | — | — | 0 | 5.068446744 | 154.8320435 | 139.3822855 | 8.362937127 | 2.014707581 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 3.81911E-05 | — | 0 | — | — | — | — | — | 0 | — | 0.018424858 | — | — | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | Media_Water (pit lake dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 2.13966E-05 | 0.000839653 | 0.012003433 | 0.004618091 | 0.000226706 | 0.006297397 | — | — | 2.15854E-05 | 0.000839653 | 0.001445612 | 0.000552502 | 2.71228E-05 | 0.000753412 | — | — | 1.21197E-05 | 0.000100455 |
| Arsenic (As) | Arsenic | As | Yes | 0.000470725 | 0.008510364 | 0.034867621 | 0.00842526 | 0.00140421 | 0.016467554 | — | — | 6.02329E-05 | 0.008510364 | 0.006435627 | 0.00154876 | 0.000258127 | 0.003027123 | — | — | 3.72128E-05 | 0.001564404 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 8.41996E-06 | 7.78625E-05 | 0.010381368 | 0.000267652 | 4.67175E-05 | 0.009988788 | — | — | 3.467E-07 | 7.78625E-05 | 0.003652198 | 9.41539E-05 | 1.64341E-05 | 0.003513825 | — | — | 3.9465E-07 | 2.73902E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 6.33974E-06 | 0.003174398 | 0.008018078 | 0.001745919 | 0.000190464 | 0.002904574 | — | — | 2.72341E-06 | 0.003174398 | 0.000826467 | 0.000179712 | 1.96049E-05 | 0.000298975 | — | — | 1.42644E-06 | 0.000326749 |
| Copper (Cu) | Copper | Cu | Yes | 0.001062698 | 0.038804322 | 0.766735915 | 0.426847544 | 0.081489077 | 0.219438442 | — | — | 0.000156531 | 0.038804322 | 0.489370709 | 0.272364174 | 0.051996797 | 0.140019946 | — | — | 0.000229413 | 0.024760379 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.000227438 | 0.006711054 | 0.183344991 | 0.008304929 | 0.000110732 | 0.168212557 | — | — | 5.71925E-06 | 0.006711054 | 0.014450972 | 0.000654236 | 8.72315E-06 | 0.013251259 | — | — | 8.07794E-06 | 0.000528676 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 3.31647E-05 | 8.4627E-05 | 0.005873004 | 0.002327241 | 0.000139634 | 0.003320127 | — | — | 1.37417E-06 | 8.4627E-05 | 0.000886441 | 0.000351212 | 2.10727E-05 | 0.000501052 | — | — | 3.31647E-07 | 1.27714E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.54976E-07 | — | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 2.83307E-10 | — | — | — | — | — | 2.83307E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 9.21243E-07 | 0.000392633 | 0.007068279 | 1.94353E-06 | 0.000647844 | 0.006022006 | — | — | 3.85304E-06 | 0.000392633 | 0.000792959 | 2.17651E-07 | 7.25502E-05 | 0.000674387 | — | — | 1.83439E-06 | 4.39698E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.006868312 | 5.33873E-05 | 0.000895221 | 5.8726E-06 | 1.04105E-05 | 0.000818827 | — | — | 6.72353E-06 | 5.33873E-05 | 0.000779972 | 5.13407E-06 | 9.10131E-06 | 0.000715853 | — | — | 3.20949E-06 | 4.66734E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.96234E-06 | 1.24171E-05 | 0.000217829 | 6.82941E-06 | 2.42134E-07 | 0.000190447 | — | — | 7.89296E-06 | 1.24171E-05 | 0.000119215 | 3.74927E-06 | 1.32929E-07 | 0.000104553 | — | — | 3.96234E-06 | 6.81685E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.049655983 | 9.212312098 | 185.8766231 | 63.33464567 | 15.20031496 | 98.11112384 | — | — | 0.018226562 | 9.212312098 | 30.51549521 | 10.38602185 | 2.492645245 | 16.08889204 | — | — | 0.037241987 | 1.510694088 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.003666547 | 5.068446744 | 154.8398444 | 139.3822855 | 8.362937127 | 2.014707581 | — | — | 0.011467465 | 5.068446744 | 1.256645372 | 1.126742606 | 0.067604556 | 0.016286552 | — | — | 0.005039199 | 0.040972458 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.018424858 | — | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 3.81911E-05 | — | — | — | — | — | 3.81911E-05 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001297666 | 0.000491832 | 2.41445E-05 | 0.00067068 | — | — | 2.15854E-05 | 0.000089424 | 5.50566E-07 | 2.12201E-07 | 1.04171E-08 | 2.89365E-07 | — | — | 0 | 3.8582E-08 | 7.64563E-06 | 2.9454E-06 |
| Arsenic (As) | Arsenic | As | Yes | 0.006074542 | 0.001455786 | 0.000242631 | 0.0028454 | — | — | 6.02329E-05 | 0.001470491 | 1.61319E-06 | 3.90479E-07 | 6.50798E-08 | 7.63208E-07 | — | — | 0 | 3.94423E-07 | 1.82048E-05 | 4.40654E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.003506142 | 9.03894E-05 | 1.57771E-05 | 0.003373334 | — | — | 3.467E-07 | 2.62951E-05 | 4.91353E-07 | 1.26685E-08 | 2.21123E-09 | 4.72788E-07 | — | — | 0 | 3.68538E-09 | 7.11988E-06 | 1.83571E-07 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000762298 | 0.000165452 | 1.80493E-05 | 0.000275252 | — | — | 2.72341E-06 | 0.000300821 | 3.67743E-07 | 8.01025E-08 | 8.73845E-09 | 1.33261E-07 | — | — | 0 | 1.45641E-07 | 2.95061E-06 | 6.42707E-07 |
| Copper (Cu) | Copper | Cu | Yes | 0.480378645 | 0.267397786 | 0.051048668 | 0.137466771 | — | — | 0.000156531 | 0.02430889 | 3.76066E-05 | 2.09401E-05 | 3.99766E-06 | 1.07651E-05 | — | — | 0 | 1.90365E-06 | 0.000422462 | 0.000235236 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.011818566 | 0.0005351 | 7.13467E-06 | 0.010838208 | — | — | 5.71925E-06 | 0.000432404 | 8.37833E-06 | 3.79523E-07 | 5.06031E-09 | 7.68707E-06 | — | — | 0 | 3.06885E-07 | 0.000129029 | 5.84478E-06 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.000839773 | 0.000332302 | 1.99381E-05 | 0.000474075 | — | — | 1.37417E-06 | 1.20837E-05 | 2.71075E-07 | 1.07441E-07 | 6.44649E-09 | 1.5328E-07 | — | — | 0 | 3.90696E-09 | 2.1453E-06 | 8.50282E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 0 | — | — | — | — | — | 0 | — | 3.31538E-14 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.0006542 | 1.78921E-07 | 5.96402E-05 | 0.000554383 | — | — | 3.85304E-06 | 3.61456E-05 | 3.24E-07 | 8.91375E-11 | 2.97125E-08 | 2.76191E-07 | — | — | 0 | 1.80076E-08 | 7.11063E-06 | 1.95624E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000750843 | 4.91832E-06 | 8.71884E-06 | 0.00068577 | — | — | 6.72353E-06 | 0.000044712 | 4.47084E-08 | 2.95504E-10 | 5.23848E-10 | 4.12027E-08 | — | — | 0 | 2.6864E-09 | 1.69863E-06 | 1.12272E-08 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.000119885 | 3.6432E-06 | 1.29168E-07 | 0.000101596 | — | — | 7.89296E-06 | 0.000006624 | 1.01823E-08 | 3.31239E-10 | 1.17439E-11 | 9.23705E-09 | — | — | 0 | 6.02253E-10 | 1.60287E-07 | 5.21428E-09 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 28.19841385 | 9.602913883 | 2.304699332 | 14.8757866 | — | — | 0.018226562 | 1.396787474 | 0.008590311 | 0.002927306 | 0.000702553 | 0.004534662 | — | — | 0 | 0.00042579 | 0.110658722 | 0.037708982 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.011467465 | — | — | — | — | — | 0.011467465 | — | 0.007015804 | 0.006315889 | 0.000378953 | 9.12933E-05 | — | — | 0 | 0.000229669 | 0.05643604 | 0.05080583 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 1.44592E-07 | 4.01645E-06 | — | — | 3.65871E-09 | 5.35527E-07 | 8.19381E-06 | 3.15809E-06 | 1.55034E-07 | 4.30649E-06 | — | — | 0 | 5.74198E-07 | 8.19532E-06 | 3.15809E-06 | 1.55034E-07 | 4.30649E-06 |
| Arsenic (As) | Arsenic | As | Yes | 7.34423E-07 | 8.61278E-06 | — | — | 0 | 4.45105E-06 | 1.98218E-05 | 4.79795E-06 | 7.99659E-07 | 9.37782E-06 | — | — | 0 | 4.84642E-06 | 1.98222E-05 | 4.79795E-06 | 7.99659E-07 | 9.37782E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.20415E-08 | 6.85087E-06 | — | — | 0 | 5.34025E-08 | 7.6125E-06 | 1.96272E-07 | 3.42584E-08 | 7.32487E-06 | — | — | 0 | 5.70973E-08 | 7.6125E-06 | 1.96272E-07 | 3.42584E-08 | 7.32487E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 7.01134E-08 | 1.06923E-06 | — | — | 0 | 1.16856E-06 | 3.3192E-06 | 7.22994E-07 | 7.8872E-08 | 1.2028E-06 | — | — | 0 | 1.31453E-06 | 3.3192E-06 | 7.22994E-07 | 7.8872E-08 | 1.2028E-06 |
| Copper (Cu) | Copper | Cu | Yes | 4.49086E-05 | 0.000120932 | — | — | 0 | 2.1385E-05 | 0.000460177 | 0.000256236 | 4.89178E-05 | 0.000131729 | — | — | 0 | 2.32942E-05 | 0.000478265 | 0.000256236 | 4.89178E-05 | 0.000131729 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 7.79305E-08 | 0.000118383 | — | — | 1.20287E-21 | 4.72306E-06 | 0.000137427 | 6.22517E-06 | 8.30222E-08 | 0.000126088 | — | — | 0 | 5.03044E-06 | 0.000137757 | 6.22517E-06 | 8.30222E-08 | 0.000126088 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.10169E-08 | 1.21304E-06 | — | — | 3.88108E-11 | 3.09193E-08 | 2.41698E-06 | 9.57977E-07 | 5.74786E-08 | 1.36668E-06 | — | — | 0 | 3.48355E-08 | 2.41698E-06 | 9.57977E-07 | 5.74786E-08 | 1.36668E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 3.31538E-14 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.52081E-07 | 6.06139E-06 | — | — | 4.99407E-22 | 3.95201E-07 | 7.43538E-06 | 2.04559E-09 | 6.81862E-07 | 6.33822E-06 | — | — | 0 | 4.1325E-07 | 7.43538E-06 | 2.04559E-09 | 6.81862E-07 | 6.33822E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.99028E-08 | 1.56543E-06 | — | — | 1.15991E-21 | 1.02066E-07 | 1.74347E-06 | 1.15236E-08 | 2.04283E-08 | 1.60676E-06 | — | — | 0 | 1.0476E-07 | 1.74347E-06 | 1.15236E-08 | 2.04283E-08 | 1.60676E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.8487E-10 | 1.45407E-07 | — | — | 1.37471E-21 | 9.48051E-09 | 1.70498E-07 | 5.54644E-09 | 1.96647E-10 | 1.5467E-07 | — | — | 0 | 1.00844E-08 | 1.70498E-07 | 5.54644E-09 | 1.96647E-10 | 1.5467E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.009050156 | 0.058414641 | — | — | 0 | 0.005484943 | 0.119269383 | 0.040643222 | 0.009754373 | 0.062960046 | — | — | 0 | 0.005911741 | 0.120438371 | 0.040643222 | 0.009754373 | 0.062960046 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.00304835 | 0.000734375 | — | — | 0 | 0.001847485 | 0.063467223 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0 | 0.002077657 | 0.063467223 | 0.057135563 | 0.003428134 | 0.000825869 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 1.50946E-09 | 5.74198E-07 | 0.001298216 | 0.000492044 | 2.41549E-05 | 0.000670969 | — | — | 2.15854E-05 | 8.94626E-05 | 0.001305312 | 0.000494777 | 2.42891E-05 | 0.000674696 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 3.26009E-10 | 4.84642E-06 | 0.006076155 | 0.001456177 | 0.000242696 | 0.002846164 | — | — | 6.02329E-05 | 0.001470886 | 0.006092746 | 0.001460193 | 0.000243365 | 0.002854013 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 5.70973E-08 | 0.003506634 | 9.04021E-05 | 1.57793E-05 | 0.003373807 | — | — | 3.467E-07 | 2.62988E-05 | 0.003513262 | 9.0573E-05 | 1.58091E-05 | 0.003380185 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 1.31453E-06 | 0.000762665 | 0.000165532 | 1.8058E-05 | 0.000275385 | — | — | 2.72341E-06 | 0.000300967 | 0.000764969 | 0.000166095 | 1.81194E-05 | 0.000276321 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 1.80881E-05 | 2.32942E-05 | 0.480416251 | 0.267418726 | 0.051052666 | 0.137477536 | — | — | 0.000156531 | 0.024310793 | 0.480801106 | 0.267633021 | 0.051093577 | 0.137587703 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 3.30149E-07 | 5.03044E-06 | 0.011826944 | 0.00053548 | 7.13973E-06 | 0.010845895 | — | — | 5.71925E-06 | 0.000432711 | 0.011947595 | 0.000540945 | 7.2126E-06 | 0.010956592 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 3.48355E-08 | 0.000840044 | 0.00033241 | 1.99446E-05 | 0.000474228 | — | — | 1.37417E-06 | 1.20876E-05 | 0.000841918 | 0.000333153 | 1.99892E-05 | 0.000475288 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 1.17391E-09 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 4.1325E-07 | 0.000654524 | 1.7901E-07 | 5.96699E-05 | 0.000554659 | — | — | 3.85304E-06 | 3.61636E-05 | 0.000661311 | 1.80877E-07 | 6.02923E-05 | 0.000560444 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.0476E-07 | 0.000750888 | 4.91862E-06 | 8.71936E-06 | 0.000685812 | — | — | 6.72353E-06 | 4.47147E-05 | 0.000752542 | 4.92955E-06 | 8.73874E-06 | 0.000687336 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.00844E-08 | 0.000119895 | 3.64353E-06 | 1.2918E-07 | 0.000101605 | — | — | 7.89296E-06 | 6.6246E-06 | 0.000120045 | 3.64841E-06 | 1.29353E-07 | 0.000101741 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.001168988 | 0.005911741 | 28.20700416 | 9.605841188 | 2.305401885 | 14.88032126 | — | — | 0.018226562 | 1.397213264 | 28.30907257 | 9.640622865 | 2.313749487 | 14.93420124 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.002077657 | 0.018483269 | 0.006315889 | 0.000378953 | 9.12933E-05 | — | — | 0.011467465 | 0.000229669 | 0.067903505 | 0.05080583 | 0.00304835 | 0.000734375 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 6.67296E-05 | — | — | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 2.15891E-05 | 8.99595E-05 | 0.00130586 | 0.00049499 | 2.42995E-05 | 0.000674986 | — | — | 2.15854E-05 | 8.99982E-05 | 0.001305861 | 0.00049499 | 2.42995E-05 | 0.000674986 | — | — | 2.15869E-05 | 8.99982E-05 |
| Arsenic (As) | Arsenic | As | Yes | 6.02329E-05 | 0.001474942 | 0.006094364 | 0.001460584 | 0.000243431 | 0.002854778 | — | — | 6.02329E-05 | 0.001475338 | 0.006094364 | 0.001460584 | 0.000243431 | 0.002854778 | — | — | 6.02332E-05 | 0.001475338 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.467E-07 | 2.63485E-05 | 0.003513755 | 9.05857E-05 | 1.58113E-05 | 0.003380659 | — | — | 3.467E-07 | 2.63522E-05 | 0.003513755 | 9.05857E-05 | 1.58113E-05 | 0.003380659 | — | — | 3.467E-07 | 2.63522E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.44447E-06 | 0.00030199 | 0.000765617 | 0.000166175 | 1.81282E-05 | 0.000276454 | — | — | 2.72341E-06 | 0.000302136 | 0.000765403 | 0.000166175 | 1.81282E-05 | 0.000276454 | — | — | 2.50997E-06 | 0.000302136 |
| Copper (Cu) | Copper | Cu | Yes | 0.000156531 | 0.024330275 | 0.480838821 | 0.267654022 | 0.051097586 | 0.137598499 | — | — | 0.000156531 | 0.024332184 | 0.480856909 | 0.267654022 | 0.051097586 | 0.137598499 | — | — | 0.000174619 | 0.024332184 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 5.71925E-06 | 0.000437127 | 0.011955993 | 0.000541325 | 7.21767E-06 | 0.010964296 | — | — | 5.71925E-06 | 0.000437435 | 0.011956323 | 0.000541325 | 7.21767E-06 | 0.010964296 | — | — | 6.0494E-06 | 0.000437435 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.37421E-06 | 1.21146E-05 | 0.00084219 | 0.00033326 | 1.99956E-05 | 0.000475441 | — | — | 1.37417E-06 | 1.21186E-05 | 0.00084219 | 0.00033326 | 1.99956E-05 | 0.000475441 | — | — | 1.37375E-06 | 1.21186E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.17391E-09 | — | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 1.17351E-09 | — | — | — | — | — | 1.17351E-09 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 3.85304E-06 | 3.65408E-05 | 0.000661636 | 1.80966E-07 | 6.03221E-05 | 0.000560721 | — | — | 3.85304E-06 | 3.65588E-05 | 0.000661636 | 1.80966E-07 | 6.03221E-05 | 0.000560721 | — | — | 3.85304E-06 | 3.65588E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 6.72353E-06 | 4.48141E-05 | 0.000752586 | 4.92984E-06 | 8.73927E-06 | 0.000687377 | — | — | 6.72353E-06 | 4.48168E-05 | 0.000752586 | 4.92984E-06 | 8.73927E-06 | 0.000687377 | — | — | 6.72353E-06 | 4.48168E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 7.89296E-06 | 6.63348E-06 | 0.000120055 | 3.64875E-06 | 1.29365E-07 | 0.00010175 | — | — | 7.89296E-06 | 6.63408E-06 | 0.000120055 | 3.64875E-06 | 1.29365E-07 | 0.00010175 | — | — | 7.89296E-06 | 6.63408E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.018226562 | 1.402272417 | 28.31768323 | 9.643557105 | 2.314453705 | 14.93874664 | — | — | 0.018226562 | 1.402699215 | 28.31885222 | 9.643557105 | 2.314453705 | 14.93874664 | — | — | 0.01939555 | 1.402699215 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.011467465 | 0.001847485 | 0.074934688 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0.011467465 | 0.002077657 | 0.074934688 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0.011467465 | 0.002077657 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 6.67296E-05 | — | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 6.67286E-05 | — | — | — | — | — | 6.67286E-05 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| Common Name | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| Chemical Property | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| Wet Ingestion Rates | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.001297666 | 0.000491832 | 2.41445E-05 | 0.00067068 | — | — | 2.15854E-05 | 0.000089424 | 5.50566E-07 | 2.12201E-07 | 1.04171E-08 | 2.89365E-07 | — | — | 0 | 3.8582E-08 | 7.64563E-06 | 2.9454E-06 |
| Arsenic (As) | Arsenic | As | Yes | 0.006074542 | 0.001455786 | 0.000242631 | 0.0028454 | — | — | 6.02329E-05 | 0.001470491 | 1.61319E-06 | 3.90479E-07 | 6.50798E-08 | 7.63208E-07 | — | — | 0 | 3.94423E-07 | 1.82048E-05 | 4.40654E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.003506142 | 9.03894E-05 | 1.57771E-05 | 0.003373334 | — | — | 3.467E-07 | 2.62951E-05 | 4.91353E-07 | 1.26685E-08 | 2.21123E-09 | 4.72788E-07 | — | — | 0 | 3.68538E-09 | 7.11988E-06 | 1.83571E-07 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.000762298 | 0.000165452 | 1.80493E-05 | 0.000275252 | — | — | 2.72341E-06 | 0.000300821 | 3.67743E-07 | 8.01025E-08 | 8.73845E-09 | 1.33261E-07 | — | — | 0 | 1.45641E-07 | 2.95061E-06 | 6.42707E-07 |
| Copper (Cu) | Copper | Cu | Yes | 0.480378645 | 0.267397786 | 0.051048668 | 0.137466771 | — | — | 0.000156531 | 0.02430889 | 3.76066E-05 | 2.09401E-05 | 3.99766E-06 | 1.07651E-05 | — | — | 0 | 1.90365E-06 | 0.000422462 | 0.000235236 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.011818566 | 0.0005351 | 7.13467E-06 | 0.010838208 | — | — | 5.71925E-06 | 0.000432404 | 8.37833E-06 | 3.79523E-07 | 5.06031E-09 | 7.68707E-06 | — | — | 0 | 3.06685E-07 | 0.000129029 | 5.84478E-06 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.000839773 | 0.000332302 | 1.99381E-05 | 0.000474075 | — | — | 1.37417E-06 | 1.20837E-05 | 2.71075E-07 | 1.07441E-07 | 6.44649E-09 | 1.5328E-07 | — | — | 0 | 3.90696E-09 | 2.1453E-06 | 8.50282E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 0 | — | — | — | — | — | 0 | — | 3.31538E-14 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.0006542 | 1.78921E-07 | 5.96402E-05 | 0.000554383 | — | — | 3.85304E-06 | 3.61456E-05 | 3.24E-07 | 8.91375E-11 | 2.97125E-08 | 2.76191E-07 | — | — | 0 | 1.80076E-08 | 7.11063E-06 | 1.95624E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000750843 | 4.91832E-06 | 8.71884E-06 | 0.00068577 | — | — | 6.72353E-06 | 0.000044712 | 4.47084E-08 | 2.95504E-10 | 5.23848E-10 | 4.12027E-08 | — | — | 0 | 2.6864E-09 | 1.69863E-06 | 1.12272E-08 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.000119885 | 3.6432E-06 | 1.29168E-07 | 0.000101596 | — | — | 7.89296E-06 | 0.000006624 | 1.01823E-08 | 3.31239E-10 | 1.17439E-11 | 9.23705E-09 | — | — | 0 | 6.02253E-10 | 1.60287E-07 | 5.21428E-09 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 28.19841385 | 9.602913883 | 2.304699332 | 14.8757866 | — | — | 0.018226562 | 1.396787474 | 0.008590311 | 0.002927306 | 0.000702553 | 0.004534662 | — | — | 0 | 0.00042579 | 0.110658722 | 0.037708982 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.011467465 | — | — | — | — | — | 0.011467465 | — | 0.007015804 | 0.006315889 | 0.000378953 | 9.12933E-05 | — | — | 0 | 0.000229669 | 0.05643604 | 0.05080583 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 1.44592E-07 | 4.01645E-06 | — | — | 3.65871E-09 | 5.35527E-07 | 8.19381E-06 | 3.15809E-06 | 1.55034E-07 | 4.30649E-06 | — | — | 0 | 5.74198E-07 | 8.19532E-06 | 3.15809E-06 | 1.55034E-07 | 4.30649E-06 |
| Arsenic (As) | Arsenic | As | Yes | 7.34423E-07 | 8.61278E-06 | — | — | 0 | 4.45105E-06 | 1.98218E-05 | 4.79795E-06 | 7.99659E-07 | 9.37782E-06 | — | — | 0 | 4.84642E-06 | 1.98222E-05 | 4.79795E-06 | 7.99659E-07 | 9.37782E-06 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.20415E-08 | 6.85087E-06 | — | — | 0 | 5.34025E-08 | 7.6125E-06 | 1.96272E-07 | 3.42584E-08 | 7.32487E-06 | — | — | 0 | 5.70973E-08 | 7.6125E-06 | 1.96272E-07 | 3.42584E-08 | 7.32487E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 7.01134E-08 | 1.06923E-06 | — | — | 0 | 1.16856E-06 | 3.3192E-06 | 7.22994E-07 | 7.8872E-08 | 1.2028E-06 | — | — | 0 | 1.31453E-06 | 3.3192E-06 | 7.22994E-07 | 7.8872E-08 | 1.2028E-06 |
| Copper (Cu) | Copper | Cu | Yes | 4.49086E-05 | 0.000120932 | — | — | 0 | 2.1385E-05 | 0.000460177 | 0.000256236 | 4.89178E-05 | 0.000131729 | — | — | 0 | 2.32942E-05 | 0.000478265 | 0.000256236 | 4.89178E-05 | 0.000131729 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 7.79305E-08 | 0.000118383 | — | — | 1.20287E-21 | 4.72306E-06 | 0.000137427 | 6.22517E-06 | 8.30022E-08 | 0.000126088 | — | — | 0 | 5.03044E-06 | 0.000137757 | 6.22517E-06 | 8.30022E-08 | 0.000126088 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.10169E-08 | 1.21304E-06 | — | — | 3.88108E-11 | 3.09193E-08 | 2.41698E-06 | 9.57977E-07 | 5.74786E-08 | 1.36668E-06 | — | — | 0 | 3.48355E-08 | 2.41698E-06 | 9.57977E-07 | 5.74786E-08 | 1.36668E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 3.31538E-14 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.52081E-07 | 6.06139E-06 | — | — | 4.99407E-22 | 3.95201E-07 | 7.43538E-06 | 2.04559E-09 | 6.81862E-07 | 6.33822E-06 | — | — | 0 | 4.1325E-07 | 7.43538E-06 | 2.04559E-09 | 6.81862E-07 | 6.33822E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.99028E-08 | 1.56543E-06 | — | — | 1.15991E-21 | 1.02066E-07 | 1.74347E-06 | 1.15236E-08 | 2.04283E-08 | 1.60676E-06 | — | — | 0 | 1.0476E-07 | 1.74347E-06 | 1.15236E-08 | 2.04283E-08 | 1.60676E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.8487E-10 | 1.45407E-07 | — | — | 1.37471E-21 | 9.48051E-09 | 1.70498E-07 | 5.54644E-09 | 1.96647E-10 | 1.5467E-07 | — | — | 0 | 1.00844E-08 | 1.70498E-07 | 5.54644E-09 | 1.96647E-10 | 1.5467E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.009050156 | 0.058414641 | — | — | 0 | 0.005484943 | 0.119269383 | 0.040643222 | 0.009754373 | 0.062960046 | — | — | 0 | 0.005911741 | 0.120438371 | 0.040643222 | 0.009754373 | 0.062960046 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.00304835 | 0.000734375 | — | — | 0 | 0.001847485 | 0.063467223 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0 | 0.002077657 | 0.063467223 | 0.057135563 | 0.003428134 | 0.000825869 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 1.50946E-09 | 5.74198E-07 | 0.001298216 | 0.000492044 | 2.41549E-05 | 0.000670969 | — | — | 2.15854E-05 | 8.94626E-05 | 0.001305312 | 0.000494777 | 2.42891E-05 | 0.000674696 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 3.26009E-10 | 4.84642E-06 | 0.006076155 | 0.001456177 | 0.000242696 | 0.002846164 | — | — | 6.02329E-05 | 0.001470886 | 0.006092746 | 0.001460193 | 0.000243365 | 0.002854013 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 5.70973E-08 | 0.003506634 | 9.04021E-05 | 1.57793E-05 | 0.003373807 | — | — | 3.467E-07 | 2.62988E-05 | 0.003513262 | 9.0573E-05 | 1.58091E-05 | 0.003380185 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 1.31453E-06 | 0.000762665 | 0.000165532 | 1.8058E-05 | 0.000275385 | — | — | 2.72341E-06 | 0.000300967 | 0.000764969 | 0.000166095 | 1.81194E-05 | 0.000276321 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 1.80881E-05 | 2.32942E-05 | 0.480416251 | 0.267418726 | 0.051052666 | 0.137477536 | — | — | 0.000156531 | 0.024310793 | 0.480801106 | 0.267633021 | 0.051093577 | 0.137587703 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 3.30149E-07 | 5.03044E-06 | 0.011826944 | 0.00053548 | 7.13973E-06 | 0.010845895 | — | — | 5.71925E-06 | 0.000432711 | 0.011947595 | 0.000540945 | 7.2126E-06 | 0.010956592 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 3.48355E-08 | 0.000840044 | 0.00033241 | 1.99446E-05 | 0.000474228 | — | — | 1.37417E-06 | 1.20876E-05 | 0.000841918 | 0.000333153 | 1.99892E-05 | 0.000475288 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 1.17391E-09 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 4.1325E-07 | 0.000654524 | 1.7901E-07 | 5.96699E-05 | 0.000554659 | — | — | 3.85304E-06 | 3.61636E-05 | 0.000661311 | 1.80877E-07 | 6.02923E-05 | 0.000560444 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.0476E-07 | 0.000750888 | 4.91862E-06 | 8.71936E-06 | 0.000685812 | — | — | 6.72353E-06 | 4.47147E-05 | 0.000752542 | 4.92955E-06 | 8.73874E-06 | 0.000687336 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.00844E-08 | 0.000119895 | 3.64353E-06 | 1.2918E-07 | 0.000101605 | — | — | 7.89296E-06 | 6.6246E-06 | 0.000120045 | 3.64841E-06 | 1.29353E-07 | 0.000101741 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 0.001168988 | 0.005911741 | 28.20700416 | 9.605841188 | 2.305401885 | 14.88032126 | — | — | 0.018226562 | 1.397213264 | 28.30907257 | 9.640622865 | 2.313749487 | 14.93420124 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 0.002077657 | 0.018483269 | 0.006315889 | 0.000378953 | 9.12933E-05 | — | — | 0.011467465 | 0.000229669 | 0.067903505 | 0.05080583 | 0.00304835 | 0.000734375 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 6.67296E-05 | — | — | — | — | — |

**TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE**

**Ruffed Grouse**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient | Bird Transfer Coefficient |
| **Wet Ingestion Rates** | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 | — | 0.067341959 | 0.059900528 | 0.04968 | — | — | 0.03962335 | 0.0006624 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) | Concentration in Ruffed Grouse (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Plant_2 (mg/kg) | Concentration in Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of — (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Ruffed Grouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 2.15891E-05 | 8.99595E-05 | 0.00130586 | 0.00049499 | 2.42995E-05 | 0.000674986 | — | — | 2.15854E-05 | 8.99982E-05 | 0.001305861 | 0.00049499 | 2.42995E-05 | 0.000674986 | — | — | 2.15869E-05 | 8.99982E-05 |
| Arsenic (As) | Arsenic | As | Yes | 6.02329E-05 | 0.001474942 | 0.006094364 | 0.001460584 | 0.000243431 | 0.002854778 | — | — | 6.02329E-05 | 0.001475338 | 0.006094364 | 0.001460584 | 0.000243431 | 0.002854778 | — | — | 6.02332E-05 | 0.001475338 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.467E-07 | 2.63485E-05 | 0.003513755 | 9.05857E-05 | 1.58113E-05 | 0.003380659 | — | — | 3.467E-07 | 2.63522E-05 | 0.003513755 | 9.05857E-05 | 1.58113E-05 | 0.003380659 | — | — | 3.467E-07 | 2.63522E-05 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.44447E-06 | 0.00030199 | 0.000765617 | 0.000166175 | 1.81282E-05 | 0.000276454 | — | — | 2.72341E-06 | 0.000302136 | 0.000765403 | 0.000166175 | 1.81282E-05 | 0.000276454 | — | — | 2.50997E-06 | 0.000302136 |
| Copper (Cu) | Copper | Cu | Yes | 0.000156531 | 0.024330275 | 0.480838821 | 0.267654022 | 0.051097586 | 0.137598499 | — | — | 0.000156531 | 0.024332184 | 0.480856909 | 0.267654022 | 0.051097586 | 0.137598499 | — | — | 0.000174619 | 0.024332184 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 5.71925E-06 | 0.000437127 | 0.011955993 | 0.000541325 | 7.21767E-06 | 0.010964296 | — | — | 5.71925E-06 | 0.000437435 | 0.011956323 | 0.000541325 | 7.21767E-06 | 0.010964296 | — | — | 6.0494E-06 | 0.000437435 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.37421E-06 | 1.21146E-05 | 0.00084219 | 0.00033326 | 1.99956E-05 | 0.000475441 | — | — | 1.37417E-06 | 1.21186E-05 | 0.00084219 | 0.00033326 | 1.99956E-05 | 0.000475441 | — | — | 1.37375E-06 | 1.21186E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 1.17391E-09 | — | 1.17388E-09 | — | — | — | — | — | 1.17388E-09 | — | 1.17351E-09 | — | — | — | — | — | 1.17351E-09 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 3.85304E-06 | 3.65408E-05 | 0.000661636 | 1.80966E-07 | 6.03221E-05 | 0.000560721 | — | — | 3.85304E-06 | 3.65588E-05 | 0.000661636 | 1.80966E-07 | 6.03221E-05 | 0.000560721 | — | — | 3.85304E-06 | 3.65588E-05 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 6.72353E-06 | 4.48141E-05 | 0.000752586 | 4.92984E-06 | 8.73927E-06 | 0.000687377 | — | — | 6.72353E-06 | 4.48168E-05 | 0.000752586 | 4.92984E-06 | 8.73927E-06 | 0.000687377 | — | — | 6.72353E-06 | 4.48168E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 7.89296E-06 | 6.63348E-06 | 0.000120055 | 3.64875E-06 | 1.29365E-07 | 0.00010175 | — | — | 7.89296E-06 | 6.63408E-06 | 0.000120055 | 3.64875E-06 | 1.29365E-07 | 0.00010175 | — | — | 7.89296E-06 | 6.63408E-06 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.018226562 | 1.402272417 | 28.31768323 | 9.643557105 | 2.314453705 | 14.93874664 | — | — | 0.018226562 | 1.402699215 | 28.31885222 | 9.643557105 | 2.314453705 | 14.93874664 | — | — | 0.01939555 | 1.402699215 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.011467465 | 0.001847485 | 0.074934688 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0.011467465 | 0.002077657 | 0.074934688 | 0.057135563 | 0.003428134 | 0.000825869 | — | — | 0.011467465 | 0.002077657 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 6.67296E-05 | — | 6.67296E-05 | — | — | — | — | — | 6.67296E-05 | — | 6.67286E-05 | — | — | — | — | — | 6.67286E-05 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 |
| **Common Name** | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.26742E-08 | 3.52191E-09 | 4.53535E-10 | 2.17E-08 | — | — | 8.31876E-09 | 8.68E-09 | 3.22583E-07 | 3.30692E-08 | 4.2585E-09 | 2.03754E-07 | — | — | 0 | 8.15015E-08 | 3.30829E-07 | 3.30692E-08 |
| Arsenic (As) | Arsenic | As | Yes | 2.23358E-07 | 8.52921E-09 | 3.72898E-09 | 7.53247E-08 | — | — | 1.89925E-08 | 1.16783E-07 | 1.18275E-06 | 4.93622E-08 | 2.15812E-08 | 4.35937E-07 | — | — | 0 | 6.75871E-07 | 1.33118E-06 | 4.93622E-08 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.43896E-08 | 1.97376E-10 | 9.03724E-11 | 3.32828E-08 | — | — | 4.07444E-11 | 7.78317E-10 | 1.01711E-07 | 5.84452E-10 | 2.67602E-10 | 9.85538E-08 | — | — | 0 | 2.30468E-09 | 1.027E-07 | 5.84452E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 5.49162E-06 | 1.59944E-07 | 4.57707E-08 | 1.20229E-06 | — | — | 1.41692E-07 | 3.94192E-06 | 5.64547E-05 | 1.68779E-06 | 4.82992E-07 | 1.2687E-05 | — | — | 0 | 4.15969E-05 | 5.67846E-05 | 1.68779E-06 |
| Copper (Cu) | Copper | Cu | Yes | 1.76521E-05 | 3.46974E-06 | 1.73762E-06 | 8.05971E-06 | — | — | 1.09314E-07 | 4.27571E-06 | 2.80036E-05 | 5.53875E-06 | 2.77377E-06 | 1.28657E-05 | — | — | 0 | 6.82532E-06 | 2.87457E-05 | 5.53875E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 4.61485E-07 | 4.43387E-09 | 1.55079E-10 | 4.05778E-07 | — | — | 2.55049E-09 | 4.85671E-08 | 7.12281E-06 | 6.88152E-08 | 2.40688E-09 | 6.29781E-06 | — | — | 0 | 7.53778E-07 | 7.22424E-06 | 6.88152E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.14941E-07 | 1.38167E-08 | 2.17465E-09 | 8.9064E-08 | — | — | 3.07504E-09 | 6.81047E-09 | 7.83439E-07 | 9.6764E-08 | 1.52299E-08 | 6.23749E-07 | — | — | 0 | 4.76964E-08 | 8.57653E-07 | 9.6764E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 0 | — | — | — | — | — | 0 | — | 5.78869E-09 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 4.18973E-08 | 2.23179E-12 | 1.95148E-09 | 3.12454E-08 | — | — | 2.58663E-09 | 6.11157E-09 | 4.27014E-07 | 2.42429E-11 | 2.11981E-08 | 3.39405E-07 | — | — | 0 | 6.63872E-08 | 4.27632E-07 | 2.42429E-11 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.17274E-06 | 1.40876E-09 | 6.55107E-09 | 8.8753E-07 | — | — | 1.03647E-07 | 1.736E-07 | 1.27652E-06 | 1.6821E-09 | 7.82214E-09 | 1.05973E-06 | — | — | 0 | 2.07283E-07 | 0.000107155 | 1.6821E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 8.61148E-09 | 3.20919E-11 | 2.98469E-12 | 4.04361E-09 | — | — | 3.74187E-09 | 7.90927E-10 | 9.1284E-09 | 6.01582E-11 | 5.59498E-12 | 7.58001E-09 | — | — | 0 | 1.48264E-09 | 1.10669E-08 | 6.01582E-11 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 5.70829E-07 | 5.33348E-08 | 3.35779E-08 | 3.7331E-07 | — | — | 5.44815E-09 | 1.05158E-07 | 3.72889E-06 | 3.51762E-07 | 2.21458E-07 | 2.46212E-06 | — | — | 0 | 6.93554E-07 | 3.74373E-06 | 3.51762E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 3.84918E-06 | — | — | — | — | — | 3.84918E-06 | — | 0.001491391 | 0.000869303 | 0.000136821 | 5.67752E-05 | — | — | 0 | 0.000428492 | 0.001492622 | 0.000869303 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 0 | — | — | — | — | — | 0 | — | 0.000028861 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.2585E-09 | 2.03754E-07 | — | — | 8.246E-09 | 8.15015E-08 | 3.22583E-07 | 3.30692E-08 | 4.2585E-09 | 2.03754E-07 | — | — | 0 | 8.15015E-08 | 8.90871E-09 | 4.34447E-10 | 5.59461E-11 | 2.67682E-09 |
| Arsenic (As) | Arsenic | As | Yes | 2.15812E-08 | 4.35937E-07 | — | — | 1.48428E-07 | 6.75871E-07 | 1.18275E-06 | 4.93622E-08 | 2.15812E-08 | 4.35937E-07 | — | — | 0 | 6.75871E-07 | 2.47857E-08 | 5.44721E-10 | 2.38152E-10 | 4.81064E-09 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 2.67602E-10 | 9.85538E-08 | — | — | 9.8952E-10 | 2.30468E-09 | 1.01711E-07 | 5.84452E-10 | 2.67602E-10 | 9.85538E-08 | — | — | 0 | 2.30468E-09 | 1.47693E-09 | 8.22025E-12 | 3.76379E-12 | 1.38615E-09 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 4.82992E-07 | 1.2687E-05 | — | — | 3.2984E-07 | 4.15969E-05 | 5.64547E-05 | 1.68779E-06 | 4.82992E-07 | 1.2687E-05 | — | — | 0 | 4.15969E-05 | 5.35314E-07 | 1.37852E-08 | 3.94489E-09 | 1.03623E-07 |
| Copper (Cu) | Copper | Cu | Yes | 2.77377E-06 | 1.28657E-05 | — | — | 7.4214E-07 | 6.82532E-06 | 2.80036E-05 | 5.53875E-06 | 2.77377E-06 | 1.28657E-05 | — | — | 0 | 6.82532E-06 | 4.86034E-07 | 6.44436E-08 | 3.22729E-08 | 1.49693E-07 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.40688E-09 | 6.29781E-06 | — | — | 1.01426E-07 | 7.53778E-07 | 7.12281E-06 | 6.88152E-08 | 2.40688E-09 | 6.29781E-06 | — | — | 0 | 7.53778E-07 | 1.05781E-07 | 9.87171E-10 | 3.45273E-11 | 9.03437E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.52299E-08 | 6.23749E-07 | — | — | 7.4214E-08 | 4.76964E-08 | 7.83439E-07 | 9.6764E-08 | 1.52299E-08 | 6.23749E-07 | — | — | 0 | 4.76964E-08 | 7.10799E-09 | 7.86258E-10 | 1.23751E-10 | 5.06829E-09 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 5.78869E-09 | — | 0 | — | — | — | — | — | 0 | — | 6.43188E-12 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.11981E-08 | 3.39405E-07 | — | — | 6.1845E-10 | 6.63872E-08 | 4.27014E-07 | 2.42429E-11 | 2.11981E-08 | 3.39405E-07 | — | — | 0 | 6.63872E-08 | 9.74084E-09 | 4.83104E-13 | 4.22427E-10 | 6.76353E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 7.82214E-09 | 1.05973E-06 | — | — | 0.000105879 | 2.07283E-07 | 1.27652E-06 | 1.6821E-09 | 7.82214E-09 | 1.05973E-06 | — | — | 0 | 2.07283E-07 | 9.63743E-08 | 6.17989E-11 | 2.87379E-10 | 3.89337E-08 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 5.59498E-12 | 7.58001E-09 | — | — | 1.87845E-09 | 1.48264E-09 | 9.1284E-09 | 6.01582E-11 | 5.59498E-12 | 7.58001E-09 | — | — | 0 | 1.48264E-09 | 2.02022E-09 | 9.34309E-13 | 8.6895E-14 | 1.17724E-10 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.21458E-07 | 2.46212E-06 | — | — | 1.48428E-08 | 6.93554E-07 | 3.72889E-06 | 3.51762E-07 | 2.21458E-07 | 2.46212E-06 | — | — | 0 | 6.93554E-07 | 5.72384E-08 | 4.3494E-09 | 2.73824E-09 | 3.04431E-08 |
| Aluminum (Al) | Aluminum | Al | Yes | 0.000136821 | 5.67752E-05 | — | — | 1.23072E-06 | 0.000428492 | 0.001491391 | 0.000869303 | 0.000136821 | 5.67752E-05 | — | — | 0 | 0.000428492 | 1.37476E-05 | 7.0273E-06 | 1.10604E-06 | 4.58961E-07 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0.000028861 | — | 0 | — | — | — | — | — | 0 | — | 5.98232E-08 | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 4.67077E-09 | 1.07073E-09 | 3.22583E-07 | 3.30692E-08 | 4.2585E-09 | 2.03754E-07 | — | — | 0 | 8.15015E-08 | 3.30829E-07 | 3.30692E-08 | 4.2585E-09 | 2.03754E-07 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 1.17339E-08 | 7.45835E-09 | 1.18275E-06 | 4.93622E-08 | 2.15812E-08 | 4.35937E-07 | — | — | 0 | 6.75871E-07 | 1.33118E-06 | 4.93622E-08 | 2.15812E-08 | 4.35937E-07 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 4.63796E-11 | 3.24151E-11 | 1.01711E-07 | 5.84452E-10 | 2.67602E-10 | 9.85538E-08 | — | — | 0 | 2.30468E-09 | 1.027E-07 | 5.84452E-10 | 2.67602E-10 | 9.85538E-08 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 7.4214E-08 | 3.39747E-07 | 5.64547E-05 | 1.68779E-06 | 4.82992E-07 | 1.2687E-05 | — | — | 0 | 4.15969E-05 | 5.67846E-05 | 1.68779E-06 | 4.82992E-07 | 1.2687E-05 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 1.60211E-07 | 7.94129E-08 | 2.80036E-05 | 5.53875E-06 | 2.77377E-06 | 1.28657E-05 | — | — | 0 | 6.82532E-06 | 2.87457E-05 | 5.53875E-06 | 2.77377E-06 | 1.28657E-05 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 3.60235E-09 | 1.08131E-08 | 7.12281E-06 | 6.88152E-08 | 2.40688E-09 | 6.29781E-06 | — | — | 0 | 7.53778E-07 | 7.22424E-06 | 6.88152E-08 | 2.40688E-09 | 6.29781E-06 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 7.4214E-10 | 3.87558E-10 | 7.83439E-07 | 9.6764E-08 | 1.52299E-08 | 6.23749E-07 | — | — | 0 | 4.76964E-08 | 8.57653E-07 | 9.6764E-08 | 1.52299E-08 | 6.23749E-07 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 6.43188E-12 | — | 0 | — | — | — | — | — | 0 | — | 5.78869E-09 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 1.23146E-09 | 1.32294E-09 | 4.27014E-07 | 2.42429E-11 | 2.11981E-08 | 3.39405E-07 | — | — | 0 | 6.63872E-08 | 4.27632E-07 | 2.42429E-11 | 2.11981E-08 | 3.39405E-07 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 4.9476E-08 | 7.61539E-09 | 1.27652E-06 | 1.6821E-09 | 7.82214E-09 | 1.05973E-06 | — | — | 0 | 2.07283E-07 | 0.000107155 | 1.6821E-09 | 7.82214E-09 | 1.05973E-06 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 1.87845E-09 | 2.30267E-11 | 9.1284E-09 | 6.01582E-11 | 5.59498E-12 | 7.58001E-09 | — | — | 0 | 1.48264E-09 | 1.10069E-08 | 6.01582E-11 | 5.59498E-12 | 7.58001E-09 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 1.11321E-08 | 8.57552E-09 | 3.72889E-06 | 3.51762E-07 | 2.21458E-07 | 2.46212E-06 | — | — | 0 | 6.93554E-07 | 3.74373E-06 | 3.51762E-07 | 2.21458E-07 | 2.46212E-06 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 1.69146E-06 | 3.46386E-06 | 0.001491391 | 0.000869303 | 0.000136821 | 5.67752E-05 | — | — | 0 | 0.000428492 | 0.001492622 | 0.000869303 | 0.000136821 | 5.67752E-05 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 5.98232E-08 | — | 0 | — | — | — | — | — | 0 | — | 0.000028861 | — | — | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | Media_Water (pit lake dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Waste Rock (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 8.246E-09 | 8.15015E-08 | 3.30902E-07 | 3.30692E-08 | 4.2585E-09 | 2.03754E-07 | — | — | 8.31876E-09 | 8.15015E-08 | 4.32642E-08 | 3.95636E-09 | 5.09482E-10 | 2.43768E-08 | — | — | 4.67077E-09 | 9.75073E-09 |
| Arsenic (As) | Arsenic | As | Yes | 1.48428E-07 | 6.75871E-07 | 1.20174E-06 | 4.93622E-08 | 2.15812E-08 | 4.35937E-07 | — | — | 1.89925E-08 | 6.75871E-07 | 2.29151E-07 | 9.07393E-09 | 3.96713E-09 | 8.01354E-08 | — | — | 1.17339E-08 | 1.24241E-07 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 9.8952E-10 | 2.30468E-09 | 1.01751E-07 | 5.84452E-10 | 2.67602E-10 | 9.85538E-08 | — | — | 4.07444E-11 | 2.30468E-09 | 3.58258E-08 | 2.05597E-10 | 9.41362E-11 | 3.46689E-08 | — | — | 4.63796E-11 | 8.10732E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 3.2984E-07 | 4.15969E-05 | 5.65964E-05 | 1.68779E-06 | 4.82992E-07 | 1.2687E-05 | — | — | 1.41692E-07 | 4.15969E-05 | 5.88524E-06 | 1.73729E-07 | 4.97156E-08 | 1.30591E-06 | — | — | 7.4214E-08 | 4.28167E-06 |
| Copper (Cu) | Copper | Cu | Yes | 7.4214E-07 | 6.82532E-06 | 2.81129E-05 | 5.53875E-06 | 2.77377E-06 | 1.28657E-05 | — | — | 1.09314E-07 | 6.82532E-06 | 1.80288E-05 | 3.53418E-06 | 1.76989E-06 | 8.20941E-06 | — | — | 1.60211E-07 | 4.35512E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.01426E-07 | 7.53778E-07 | 7.12536E-06 | 6.88152E-08 | 2.40688E-09 | 6.29781E-06 | — | — | 2.55049E-09 | 7.53778E-07 | 5.64715E-07 | 5.42105E-09 | 1.89607E-10 | 4.96122E-07 | — | — | 3.60235E-09 | 5.93803E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 7.4214E-08 | 4.76964E-08 | 7.86514E-07 | 9.6764E-08 | 1.52299E-08 | 6.23749E-07 | — | — | 3.07504E-09 | 4.76964E-08 | 1.18974E-07 | 1.4603E-08 | 2.2984E-09 | 9.41322E-08 | — | — | 7.4214E-10 | 7.19803E-09 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 5.78869E-09 | — | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 6.43188E-12 | — | — | — | — | — | 6.43188E-12 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 6.1845E-10 | 6.63872E-08 | 4.29601E-07 | 2.42429E-11 | 2.11981E-08 | 3.39405E-07 | — | — | 2.58663E-09 | 6.63872E-08 | 4.90515E-08 | 2.7149E-12 | 2.37391E-09 | 3.80089E-08 | — | — | 1.23146E-09 | 7.43451E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.000105879 | 2.07283E-07 | 1.38017E-06 | 1.6821E-09 | 7.82214E-09 | 1.05973E-06 | — | — | 1.03647E-07 | 2.07283E-07 | 1.16546E-06 | 1.47056E-09 | 6.83845E-09 | 9.26464E-07 | — | — | 4.9476E-08 | 1.81215E-07 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 1.87845E-09 | 1.48264E-09 | 1.28703E-08 | 6.01582E-11 | 5.59498E-12 | 7.58001E-09 | — | — | 3.74187E-09 | 1.48264E-09 | 6.88984E-09 | 3.30262E-11 | 3.07158E-12 | 4.16134E-09 | — | — | 1.87845E-09 | 8.13953E-10 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 1.48428E-08 | 6.93554E-07 | 3.73434E-06 | 3.51762E-07 | 2.21458E-07 | 2.46212E-06 | — | — | 5.44815E-09 | 6.93554E-07 | 6.22619E-07 | 5.76842E-08 | 3.63161E-08 | 4.03754E-07 | — | — | 1.11321E-08 | 1.13733E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 1.23072E-06 | 0.000428492 | 0.001495241 | 0.000869303 | 0.000136821 | 5.67752E-05 | — | — | 3.84918E-06 | 0.000428492 | 1.37476E-05 | 7.0273E-06 | 1.10604E-06 | 4.58961E-07 | — | — | 1.69146E-06 | 3.46386E-06 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.000028861 | — | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 5.98232E-08 | — | — | — | — | — | 5.98232E-08 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.26742E-08 | 3.52191E-09 | 4.53535E-10 | 2.17E-08 | — | — | 8.31876E-09 | 8.68E-09 | 1.48227E-11 | 1.51953E-12 | 1.95678E-13 | 9.36248E-12 | — | — | 0 | 3.74499E-12 | 2.07152E-10 | 2.10914E-11 |
| Arsenic (As) | Arsenic | As | Yes | 2.23358E-07 | 8.52921E-09 | 3.72898E-09 | 7.53247E-08 | — | — | 1.89925E-08 | 1.16783E-07 | 5.4816E-11 | 2.28775E-12 | 1.00021E-12 | 2.0204E-11 | — | — | 0 | 3.1324E-11 | 6.18597E-10 | 2.58172E-11 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.43896E-08 | 1.97376E-10 | 9.03724E-11 | 3.32828E-08 | — | — | 4.07444E-11 | 7.78317E-10 | 4.81415E-12 | 2.76632E-14 | 1.26661E-14 | 4.66474E-12 | — | — | 0 | 1.09085E-13 | 6.97587E-11 | 4.0085E-13 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 5.49162E-06 | 1.59944E-07 | 4.57707E-08 | 1.20229E-06 | — | — | 1.41692E-07 | 3.94192E-06 | 2.59013E-09 | 7.74357E-11 | 2.21596E-11 | 5.8208E-10 | — | — | 0 | 1.90846E-09 | 2.07821E-08 | 6.21309E-10 |
| Copper (Cu) | Copper | Cu | Yes | 1.76521E-05 | 3.46974E-06 | 1.73762E-06 | 8.05971E-06 | — | — | 1.09314E-07 | 4.27571E-06 | 1.37379E-09 | 2.71718E-10 | 1.36075E-10 | 6.31163E-10 | — | — | 0 | 3.34834E-10 | 1.54328E-08 | 3.0524E-09 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 4.61485E-07 | 4.43387E-09 | 1.55079E-10 | 4.05778E-07 | — | — | 2.55049E-09 | 4.85671E-08 | 3.25502E-10 | 3.14475E-12 | 1.09991E-13 | 2.87801E-10 | — | — | 0 | 3.44665E-11 | 5.01284E-09 | 4.84303E-11 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.14941E-07 | 1.38167E-08 | 2.17465E-09 | 8.9064E-08 | — | — | 3.07504E-09 | 6.81047E-09 | 3.61689E-11 | 4.46729E-12 | 7.03116E-13 | 2.87965E-11 | — | — | 0 | 2.20199E-12 | 2.86325E-10 | 3.53537E-11 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 0 | — | — | — | — | — | 0 | — | 7.52686E-16 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 4.18973E-08 | 2.23179E-12 | 1.95148E-09 | 3.12454E-08 | — | — | 2.58663E-09 | 6.11157E-09 | 1.95844E-11 | 1.11187E-15 | 9.7222E-13 | 1.55663E-11 | — | — | 0 | 3.04476E-12 | 4.29807E-10 | 2.44015E-14 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.17274E-06 | 1.40876E-09 | 6.55107E-09 | 8.8753E-07 | — | — | 1.03647E-07 | 1.736E-07 | 6.42334E-11 | 8.46418E-14 | 3.93603E-13 | 5.33249E-11 | — | — | 0 | 1.04303E-11 | 2.44045E-09 | 3.21583E-12 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 8.61148E-09 | 3.20919E-11 | 2.98469E-12 | 4.04361E-09 | — | — | 3.74187E-09 | 7.90927E-10 | 4.42745E-13 | 2.91778E-15 | 2.71367E-16 | 3.67644E-13 | — | — | 0 | 7.19109E-14 | 6.96957E-12 | 4.5931E-14 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 5.70829E-07 | 5.33348E-08 | 3.35779E-08 | 3.7331E-07 | — | — | 5.44815E-09 | 1.05158E-07 | 1.72348E-10 | 1.62583E-11 | 1.02357E-11 | 1.13798E-10 | — | — | 0 | 3.20558E-11 | 2.22015E-09 | 2.09436E-10 |
| Aluminum (Al) | Aluminum | Al | Yes | 3.84918E-06 | — | — | — | — | — | 3.84918E-06 | — | 6.75801E-08 | 3.93911E-08 | 6.19985E-09 | 2.57268E-09 | — | — | 0 | 1.94164E-08 | 5.43623E-07 | 3.16867E-07 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 2.71605E-12 | 1.29953E-10 | — | — | 1.41002E-12 | 5.19813E-11 | 2.20599E-10 | 2.26145E-11 | 2.91219E-12 | 1.39337E-10 | — | — | 0 | 5.57349E-11 | 2.21181E-10 | 2.26145E-11 | 2.91219E-12 | 1.39337E-10 |
| Arsenic (As) | Arsenic | As | Yes | 1.12873E-11 | 2.28001E-10 | — | — | 0 | 3.53491E-10 | 6.73544E-10 | 2.81104E-11 | 1.22899E-11 | 2.48254E-10 | — | — | 0 | 3.8489E-10 | 6.73646E-10 | 2.81104E-11 | 1.22899E-11 | 2.48254E-10 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.83536E-13 | 6.75937E-11 | — | — | 0 | 1.58068E-12 | 7.45853E-11 | 4.28584E-13 | 1.96235E-13 | 7.22704E-11 | — | — | 0 | 1.69004E-12 | 7.45853E-11 | 4.28584E-13 | 1.96235E-13 | 7.22704E-11 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.77799E-10 | 4.67035E-09 | — | — | 0 | 1.53126E-08 | 2.33782E-08 | 6.98924E-10 | 2.00009E-10 | 5.25377E-09 | — | — | 0 | 1.72255E-08 | 2.33782E-08 | 6.98924E-10 | 2.00009E-10 | 5.25377E-09 |
| Copper (Cu) | Copper | Cu | Yes | 1.52862E-09 | 7.0903E-09 | — | — | 0 | 3.76143E-09 | 1.68105E-08 | 3.3249E-09 | 1.66509E-09 | 7.72328E-09 | — | — | 0 | 4.09723E-09 | 2.94424E-08 | 3.3249E-09 | 1.66509E-09 | 7.72328E-09 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.6939E-12 | 4.43223E-09 | — | — | 5.3642E-25 | 5.30488E-10 | 5.33908E-09 | 5.15822E-11 | 1.80414E-12 | 4.72068E-09 | — | — | 0 | 5.65013E-10 | 5.48631E-09 | 5.15822E-11 | 1.80414E-12 | 4.72068E-09 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.5644E-12 | 2.27893E-10 | — | — | 8.68483E-14 | 1.74264E-11 | 3.22492E-10 | 3.98316E-11 | 6.26918E-12 | 2.56758E-10 | — | — | 0 | 1.96335E-11 | 3.22492E-10 | 3.98316E-11 | 6.26918E-12 | 2.56758E-10 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 7.52686E-16 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.13367E-11 | 3.41624E-10 | — | — | 3.35262E-25 | 6.68214E-11 | 4.49436E-10 | 2.55159E-14 | 2.23112E-11 | 3.57227E-10 | — | — | 0 | 6.98732E-11 | 4.49436E-10 | 2.55159E-14 | 2.23112E-11 | 3.57227E-10 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.49543E-11 | 2.02599E-09 | — | — | 1.78807E-23 | 3.96282E-10 | 2.50488E-09 | 3.30074E-12 | 1.53492E-11 | 2.07948E-09 | — | — | 0 | 4.06745E-10 | 2.50488E-09 | 3.30074E-12 | 1.53492E-11 | 2.07948E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 4.27179E-15 | 5.78736E-12 | — | — | 6.51719E-25 | 1.132E-12 | 7.41355E-12 | 4.88569E-14 | 4.54391E-15 | 6.15603E-12 | — | — | 0 | 1.20411E-12 | 7.41355E-12 | 4.88569E-14 | 4.54391E-15 | 6.15603E-12 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 1.31855E-10 | 1.46593E-09 | — | — | 0 | 4.12937E-10 | 2.39291E-09 | 2.25733E-10 | 1.42115E-10 | 1.57999E-09 | — | — | 0 | 4.45069E-10 | 2.74234E-09 | 2.25733E-10 | 1.42115E-10 | 1.57999E-09 |
| Aluminum (Al) | Aluminum | Al | Yes | 4.98724E-08 | 2.0695E-08 | — | — | 0 | 1.56188E-07 | 6.11351E-07 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 0 | 1.75647E-07 | 6.11351E-07 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 5.81728E-13 | 5.57349E-11 | 4.2689E-08 | 3.52343E-09 | 4.53731E-10 | 2.17094E-08 | — | — | 8.31876E-09 | 8.68374E-09 | 4.28814E-08 | 3.543E-09 | 4.56251E-10 | 2.183E-08 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 1.02796E-13 | 3.8489E-10 | 2.23413E-07 | 8.5315E-09 | 3.72998E-09 | 7.53449E-08 | — | — | 1.89925E-08 | 1.16814E-07 | 2.23977E-07 | 8.55503E-09 | 3.74026E-09 | 7.55527E-08 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.69004E-12 | 3.43944E-08 | 1.97404E-10 | 9.0385E-11 | 3.32875E-08 | — | — | 4.07444E-11 | 7.78426E-10 | 3.44594E-08 | 1.97777E-10 | 9.05559E-11 | 3.33504E-08 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 1.72255E-08 | 5.49421E-06 | 1.60021E-07 | 4.57928E-08 | 1.20287E-06 | — | — | 1.41692E-07 | 3.94383E-06 | 5.49789E-06 | 1.60565E-07 | 4.59485E-08 | 1.20696E-06 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 1.26319E-08 | 4.09723E-09 | 1.76535E-05 | 3.47001E-06 | 1.73776E-06 | 8.06034E-06 | — | — | 1.09314E-07 | 4.27604E-06 | 1.76675E-05 | 3.47279E-06 | 1.73915E-06 | 8.0668E-06 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 1.4723E-10 | 5.65013E-10 | 4.6181E-07 | 4.43702E-09 | 1.55189E-10 | 4.06066E-07 | — | — | 2.55049E-09 | 4.86016E-08 | 4.66498E-07 | 4.48231E-09 | 1.56773E-10 | 4.10211E-07 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 1.96335E-11 | 1.14977E-07 | 1.38212E-08 | 2.17535E-09 | 8.90927E-08 | — | — | 3.07504E-09 | 6.81267E-09 | 1.15227E-07 | 1.38521E-08 | 2.18021E-09 | 8.92918E-08 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 2.66511E-11 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 6.98732E-11 | 4.19169E-08 | 2.2329E-12 | 1.95245E-09 | 3.1261E-08 | — | — | 2.58663E-09 | 6.11461E-09 | 4.23271E-08 | 2.25619E-12 | 1.97282E-09 | 3.1587E-08 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 4.06745E-10 | 1.1728E-06 | 1.40885E-09 | 6.55146E-09 | 8.87583E-07 | — | — | 1.03647E-07 | 1.7361E-07 | 1.17518E-06 | 1.41198E-09 | 6.56602E-09 | 8.89556E-07 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.20411E-12 | 8.61193E-09 | 3.20948E-11 | 2.98496E-12 | 4.04398E-09 | — | — | 3.74187E-09 | 7.90999E-10 | 8.61845E-09 | 3.21378E-11 | 2.98896E-12 | 4.0494E-09 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 3.49425E-10 | 4.45069E-10 | 5.71002E-07 | 5.3351E-08 | 3.35881E-08 | 3.73424E-07 | — | — | 5.44815E-09 | 1.0519E-07 | 5.73049E-07 | 5.35442E-08 | 3.37098E-08 | 3.74776E-07 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 1.75647E-07 | 3.91676E-06 | 3.93911E-08 | 6.19985E-09 | 2.57268E-09 | — | — | 3.84918E-06 | 1.94164E-08 | 4.3928E-06 | 3.16867E-07 | 4.98724E-08 | 2.0695E-08 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 1.04526E-07 | — | — | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 8.32017E-09 | 8.73198E-09 | 4.28948E-08 | 3.54452E-09 | 4.56448E-10 | 2.18393E-08 | — | — | 8.31876E-09 | 8.73573E-09 | 4.28954E-08 | 3.54452E-09 | 4.56448E-10 | 2.18393E-08 | — | — | 8.31934E-09 | 8.73573E-09 |
| Arsenic (As) | Arsenic | As | Yes | 1.89925E-08 | 1.17136E-07 | 2.24031E-07 | 8.55732E-09 | 3.74127E-09 | 7.5573E-08 | — | — | 1.89926E-08 | 1.17167E-07 | 2.24032E-07 | 8.55732E-09 | 3.74127E-09 | 7.5573E-08 | — | — | 1.89926E-08 | 1.17167E-07 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 4.07444E-11 | 7.79898E-10 | 3.44642E-08 | 1.97805E-10 | 9.05686E-11 | 3.33551E-08 | — | — | 4.07444E-11 | 7.80007E-10 | 3.44642E-08 | 1.97805E-10 | 9.05686E-11 | 3.33551E-08 | — | — | 4.07444E-11 | 7.80007E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.2718E-07 | 3.95724E-06 | 5.515E-06 | 1.60642E-07 | 4.59707E-08 | 1.20754E-06 | — | — | 1.41692E-07 | 3.95915E-06 | 5.50389E-06 | 1.60642E-07 | 4.59707E-08 | 1.20754E-06 | — | — | 1.30587E-07 | 3.95915E-06 |
| Copper (Cu) | Copper | Cu | Yes | 1.09314E-07 | 4.27947E-06 | 1.76689E-05 | 3.47306E-06 | 1.73929E-06 | 8.06744E-06 | — | — | 1.09314E-07 | 4.27981E-06 | 1.76815E-05 | 3.47306E-06 | 1.73929E-06 | 8.06744E-06 | — | — | 1.21946E-07 | 4.27981E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.55049E-09 | 4.90976E-08 | 4.66824E-07 | 4.48546E-09 | 1.56884E-10 | 4.10499E-07 | — | — | 2.55049E-09 | 4.91321E-08 | 4.66971E-07 | 4.48546E-09 | 1.56884E-10 | 4.10499E-07 | — | — | 2.69772E-09 | 4.91321E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 3.07513E-09 | 6.8279E-09 | 1.15263E-07 | 1.38566E-08 | 2.18092E-09 | 8.93207E-08 | — | — | 3.07504E-09 | 6.83011E-09 | 1.15262E-07 | 1.38566E-08 | 2.18092E-09 | 8.93207E-08 | — | — | 3.07409E-09 | 6.83011E-09 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.66511E-11 | — | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 2.66421E-11 | — | — | — | — | — | 2.66421E-11 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.58663E-09 | 6.17839E-09 | 4.23467E-08 | 2.25731E-12 | 1.97379E-09 | 3.16026E-08 | — | — | 2.58663E-09 | 6.18144E-09 | 4.23467E-08 | 2.25731E-12 | 1.97379E-09 | 3.16026E-08 | — | — | 2.58663E-09 | 6.18144E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.03647E-07 | 1.73996E-07 | 1.17524E-06 | 1.41206E-09 | 6.56642E-09 | 8.89609E-07 | — | — | 1.03647E-07 | 1.74007E-07 | 1.17524E-06 | 1.41206E-09 | 6.56642E-09 | 8.89609E-07 | — | — | 1.03647E-07 | 1.74007E-07 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.74187E-09 | 7.92059E-10 | 8.6189E-09 | 3.21407E-11 | 2.98923E-12 | 4.04977E-09 | — | — | 3.74187E-09 | 7.92131E-10 | 8.6189E-09 | 3.21407E-11 | 2.98923E-12 | 4.04977E-09 | — | — | 3.74187E-09 | 7.92131E-10 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 5.44815E-09 | 1.05571E-07 | 5.73222E-07 | 5.35605E-08 | 3.372E-08 | 3.7489E-07 | — | — | 5.44815E-09 | 1.05603E-07 | 5.73572E-07 | 5.35605E-08 | 3.372E-08 | 3.7489E-07 | — | — | 5.79757E-09 | 1.05603E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 3.84918E-06 | 1.56188E-07 | 4.46053E-06 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 3.84918E-06 | 1.75647E-07 | 4.46053E-06 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 3.84918E-06 | 1.75647E-07 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.04526E-07 | — | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 1.04525E-07 | — | — | — | — | — | 1.04525E-07 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.26742E-08 | 3.52191E-09 | 4.53535E-10 | 2.17E-08 | — | — | 8.31876E-09 | 8.68E-09 | 1.48227E-11 | 1.51953E-12 | 1.95678E-13 | 9.36248E-12 | — | — | 0 | 3.74499E-12 | 2.07152E-10 | 2.10914E-11 |
| Arsenic (As) | Arsenic | As | Yes | 2.23358E-07 | 8.52921E-09 | 3.72898E-09 | 7.53247E-08 | — | — | 1.89925E-08 | 1.16783E-07 | 5.4816E-11 | 2.28775E-12 | 1.00021E-12 | 2.0204E-11 | — | — | 0 | 3.1324E-11 | 6.18597E-10 | 2.58172E-11 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 3.43896E-08 | 1.97376E-10 | 9.03724E-11 | 3.32828E-08 | — | — | 4.07444E-11 | 7.78317E-10 | 4.81415E-12 | 2.76632E-14 | 1.26661E-14 | 4.66474E-12 | — | — | 0 | 1.09085E-13 | 6.97587E-11 | 4.0085E-13 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 5.49162E-06 | 1.59944E-07 | 4.57707E-08 | 1.20229E-06 | — | — | 1.41692E-07 | 3.94192E-06 | 2.59013E-09 | 7.74357E-11 | 2.21596E-11 | 5.8208E-10 | — | — | 0 | 1.90846E-09 | 2.07821E-08 | 6.21309E-10 |
| Copper (Cu) | Copper | Cu | Yes | 1.76521E-05 | 3.46974E-06 | 1.73762E-06 | 8.05971E-06 | — | — | 1.09314E-07 | 4.27571E-06 | 1.37379E-09 | 2.71718E-10 | 1.36075E-10 | 6.31163E-10 | — | — | 0 | 3.34834E-10 | 1.54328E-08 | 3.0524E-09 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 4.61485E-07 | 4.43387E-09 | 1.55079E-10 | 4.05778E-07 | — | — | 2.55049E-09 | 4.85671E-08 | 3.25502E-10 | 3.14475E-12 | 1.09991E-13 | 2.87801E-10 | — | — | 0 | 3.44665E-11 | 5.01284E-09 | 4.84303E-11 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.14941E-07 | 1.38167E-08 | 2.17465E-09 | 8.9064E-08 | — | — | 3.07504E-09 | 6.81047E-09 | 3.61689E-11 | 4.46729E-12 | 7.03116E-13 | 2.87965E-11 | — | — | 0 | 2.20199E-12 | 2.86325E-10 | 3.53537E-11 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 0 | — | — | — | — | — | 0 | — | 7.52686E-16 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 4.18973E-08 | 2.23179E-12 | 1.95148E-09 | 3.12454E-08 | — | — | 2.58663E-09 | 6.11157E-09 | 1.95844E-11 | 1.11187E-15 | 9.7222E-13 | 1.55663E-11 | — | — | 0 | 3.04476E-12 | 4.29807E-10 | 2.44015E-14 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.17274E-06 | 1.40876E-09 | 6.55107E-09 | 8.8753E-07 | — | — | 1.03647E-07 | 1.736E-07 | 6.42334E-11 | 8.46418E-14 | 3.93603E-13 | 5.33249E-11 | — | — | 0 | 1.04303E-11 | 2.44045E-09 | 3.21583E-12 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 8.61148E-09 | 3.20919E-11 | 2.98469E-12 | 4.04361E-09 | — | — | 3.74187E-09 | 7.90927E-10 | 4.42745E-13 | 2.91778E-15 | 2.71367E-16 | 3.67644E-13 | — | — | 0 | 7.19109E-14 | 6.96957E-12 | 4.5931E-14 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 5.70829E-07 | 5.33348E-08 | 3.35779E-08 | 3.7331E-07 | — | — | 5.44815E-09 | 1.05158E-07 | 1.72348E-10 | 1.62583E-11 | 1.02357E-11 | 1.13798E-10 | — | — | 0 | 3.20558E-11 | 2.22015E-09 | 2.09436E-10 |
| Aluminum (Al) | Aluminum | Al | Yes | 3.84918E-06 | — | — | — | — | — | 3.84918E-06 | — | 6.75801E-08 | 3.93911E-08 | 6.19985E-09 | 2.57268E-09 | — | — | 0 | 1.94164E-08 | 5.43623E-07 | 3.16867E-07 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 |
| **Common Name** | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 2.71605E-12 | 1.29953E-10 | — | — | 1.41002E-12 | 5.19813E-11 | 2.20599E-10 | 2.26145E-11 | 2.91219E-12 | 1.39337E-10 | — | — | 0 | 5.57349E-11 | 2.21181E-10 | 2.26145E-11 | 2.91219E-12 | 1.39337E-10 |
| Arsenic (As) | Arsenic | As | Yes | 1.12873E-11 | 2.28001E-10 | — | — | 0 | 3.53491E-10 | 6.73544E-10 | 2.81104E-11 | 1.22899E-11 | 2.48254E-10 | — | — | 0 | 3.8489E-10 | 6.73646E-10 | 2.81104E-11 | 1.22899E-11 | 2.48254E-10 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.83536E-13 | 6.75937E-11 | — | — | 0 | 1.58068E-12 | 7.45853E-11 | 4.28584E-13 | 1.96235E-13 | 7.22704E-11 | — | — | 0 | 1.69004E-12 | 7.45853E-11 | 4.28584E-13 | 1.96235E-13 | 7.22704E-11 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.77799E-10 | 4.67035E-09 | — | — | 0 | 1.53126E-08 | 2.33782E-08 | 6.98924E-10 | 2.00009E-10 | 5.25377E-09 | — | — | 0 | 1.72255E-08 | 2.33782E-08 | 6.98924E-10 | 2.00009E-10 | 5.25377E-09 |
| Copper (Cu) | Copper | Cu | Yes | 1.52862E-09 | 7.0903E-09 | — | — | 0 | 3.76143E-09 | 1.68105E-08 | 3.3249E-09 | 1.66509E-09 | 7.72328E-09 | — | — | 0 | 4.09723E-09 | 2.94424E-08 | 3.3249E-09 | 1.66509E-09 | 7.72328E-09 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.6939E-12 | 4.43223E-09 | — | — | 5.3642E-25 | 5.30488E-10 | 5.33908E-09 | 5.15822E-11 | 1.80414E-12 | 4.72068E-09 | — | — | 0 | 5.65013E-10 | 5.48631E-09 | 5.15822E-11 | 1.80414E-12 | 4.72068E-09 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.5644E-12 | 2.27893E-10 | — | — | 8.68483E-14 | 1.74264E-11 | 3.22492E-10 | 3.98316E-11 | 6.26918E-12 | 2.56758E-10 | — | — | 0 | 1.96335E-11 | 3.22492E-10 | 3.98316E-11 | 6.26918E-12 | 2.56758E-10 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 7.52686E-16 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.13367E-11 | 3.41624E-10 | — | — | 3.35262E-25 | 6.68214E-11 | 4.49436E-10 | 2.55159E-14 | 2.23112E-11 | 3.57227E-10 | — | — | 0 | 6.98732E-11 | 4.49436E-10 | 2.55159E-14 | 2.23112E-11 | 3.57227E-10 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.49543E-11 | 2.02599E-09 | — | — | 1.78807E-23 | 3.96282E-10 | 2.50488E-09 | 3.30074E-12 | 1.53492E-11 | 2.07948E-09 | — | — | 0 | 4.06745E-10 | 2.50488E-09 | 3.30074E-12 | 1.53492E-11 | 2.07948E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 4.27179E-15 | 5.78736E-12 | — | — | 6.51719E-25 | 1.132E-12 | 7.41355E-12 | 4.88569E-14 | 4.54391E-15 | 6.15603E-12 | — | — | 0 | 1.20411E-12 | 7.41355E-12 | 4.88569E-14 | 4.54391E-15 | 6.15603E-12 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 1.31855E-10 | 1.46593E-09 | — | — | 0 | 4.12937E-10 | 2.39291E-09 | 2.25733E-10 | 1.42115E-10 | 1.57999E-09 | — | — | 0 | 4.45069E-10 | 2.74234E-09 | 2.25733E-10 | 1.42115E-10 | 1.57999E-09 |
| Aluminum (Al) | Aluminum | Al | Yes | 4.98724E-08 | 2.0695E-08 | — | — | 0 | 1.56188E-07 | 6.11351E-07 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 0 | 1.75647E-07 | 6.11351E-07 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 5.81728E-13 | 5.57349E-11 | 4.2689E-08 | 3.52343E-09 | 4.53731E-10 | 2.17094E-08 | — | — | 8.31876E-09 | 8.68374E-09 | 4.28814E-08 | 3.543E-09 | 4.56251E-10 | 2.183E-08 | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 1.02796E-13 | 3.8489E-10 | 2.23413E-07 | 8.5315E-09 | 3.72998E-09 | 7.53449E-08 | — | — | 1.89925E-08 | 1.16814E-07 | 2.23977E-07 | 8.55503E-09 | 3.74026E-09 | 7.55527E-08 | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 1.69004E-12 | 3.43944E-08 | 1.97404E-10 | 9.0385E-11 | 3.32875E-08 | — | — | 4.07444E-11 | 7.78426E-10 | 3.44594E-08 | 1.97777E-10 | 9.05559E-11 | 3.33504E-08 | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 1.72255E-08 | 5.49421E-06 | 1.60021E-07 | 4.57928E-08 | 1.20287E-06 | — | — | 1.41692E-07 | 3.94383E-06 | 5.49789E-06 | 1.60565E-07 | 4.59485E-08 | 1.20696E-06 | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 1.26319E-08 | 4.09723E-09 | 1.76535E-05 | 3.47001E-06 | 1.73776E-06 | 8.06034E-06 | — | — | 1.09314E-07 | 4.27604E-06 | 1.76675E-05 | 3.47279E-06 | 1.73915E-06 | 8.0668E-06 | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 1.4723E-10 | 5.65013E-10 | 4.6181E-07 | 4.43702E-09 | 1.55189E-10 | 4.06066E-07 | — | — | 2.55049E-09 | 4.86016E-08 | 4.66498E-07 | 4.48231E-09 | 1.56773E-10 | 4.10211E-07 | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 1.96335E-11 | 1.14977E-07 | 1.38212E-08 | 2.17535E-09 | 8.90927E-08 | — | — | 3.07504E-09 | 6.81267E-09 | 1.15227E-07 | 1.38521E-08 | 2.18021E-09 | 8.92918E-08 | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 2.66511E-11 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 6.98732E-11 | 4.19169E-08 | 2.2329E-12 | 1.95245E-09 | 3.1261E-08 | — | — | 2.58663E-09 | 6.11461E-09 | 4.23271E-08 | 2.25619E-12 | 1.97282E-09 | 3.1587E-08 | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 4.06745E-10 | 1.1728E-06 | 1.40885E-09 | 6.55146E-09 | 8.87583E-07 | — | — | 1.03647E-07 | 1.7361E-07 | 1.17518E-06 | 1.41198E-09 | 6.56602E-09 | 8.89556E-07 | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 1.20411E-12 | 8.61193E-09 | 3.20948E-11 | 2.98496E-12 | 4.04398E-09 | — | — | 3.74187E-09 | 7.90999E-10 | 8.61845E-09 | 3.21378E-11 | 2.98896E-12 | 4.0494E-09 | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 3.49425E-10 | 4.45069E-10 | 5.71002E-07 | 5.3351E-08 | 3.35881E-08 | 3.73424E-07 | — | — | 5.44815E-09 | 1.0519E-07 | 5.73049E-07 | 5.35442E-08 | 3.37098E-08 | 3.74776E-07 | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 1.75647E-07 | 3.91676E-06 | 3.93911E-08 | 6.19985E-09 | 2.57268E-09 | — | — | 3.84918E-06 | 1.94164E-08 | 4.3928E-06 | 3.16867E-07 | 4.98724E-08 | 2.0695E-08 | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 1.04526E-07 | — | — | — | — | — |

**TABLE IV-16: CHEMICAL CONCENTRATIONS IN DEER MOUSE**

**Deer Mouse**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | Invertebrate_1 | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 | — | forage | berries | soil invertebrate | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 | — | 0.0032 kg/d | 0.0124 kg/d | 0.0293 kg/d | — | — | 0.004 | 0.0001 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) | Concentration in Deer Mouse (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_1 (mg/kg) | Concentration in Deer Mouse from the consumption of Plant_2 (mg/kg) | Concentration in Deer Mouse from the consumption of Invertebrate_1 (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of — (mg/kg) | Concentration in Deer Mouse from the consumption of media_Water (dry) (mg/kg) | Concentration in Deer Mouse from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 8.32017E-09 | 8.73198E-09 | 4.28948E-08 | 3.54452E-09 | 4.56448E-10 | 2.18393E-08 | — | — | 8.31876E-09 | 8.73573E-09 | 4.28954E-08 | 3.54452E-09 | 4.56448E-10 | 2.18393E-08 | — | — | 8.31934E-09 | 8.73573E-09 |
| Arsenic (As) | Arsenic | As | Yes | 1.89925E-08 | 1.17136E-07 | 2.24031E-07 | 8.55732E-09 | 3.74127E-09 | 7.5573E-08 | — | — | 1.89926E-08 | 1.17167E-07 | 2.24032E-07 | 8.55732E-09 | 3.74127E-09 | 7.5573E-08 | — | — | 1.89926E-08 | 1.17167E-07 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 4.07444E-11 | 7.79898E-10 | 3.44642E-08 | 1.97805E-10 | 9.05686E-11 | 3.33551E-08 | — | — | 4.07444E-11 | 7.80007E-10 | 3.44642E-08 | 1.97805E-10 | 9.05686E-11 | 3.33551E-08 | — | — | 4.07444E-11 | 7.80007E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 1.2718E-07 | 3.95724E-06 | 5.515E-06 | 1.60642E-07 | 4.59707E-08 | 1.20754E-06 | — | — | 1.41692E-07 | 3.95915E-06 | 5.50389E-06 | 1.60642E-07 | 4.59707E-08 | 1.20754E-06 | — | — | 1.30587E-07 | 3.95915E-06 |
| Copper (Cu) | Copper | Cu | Yes | 1.09314E-07 | 4.27947E-06 | 1.76689E-05 | 3.47306E-06 | 1.73929E-06 | 8.06744E-06 | — | — | 1.09314E-07 | 4.27981E-06 | 1.76815E-05 | 3.47306E-06 | 1.73929E-06 | 8.06744E-06 | — | — | 1.21946E-07 | 4.27981E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.55049E-09 | 4.90976E-08 | 4.66824E-07 | 4.48546E-09 | 1.56884E-10 | 4.10499E-07 | — | — | 2.55049E-09 | 4.91321E-08 | 4.66971E-07 | 4.48546E-09 | 1.56884E-10 | 4.10499E-07 | — | — | 2.69772E-09 | 4.91321E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 3.07513E-09 | 6.8279E-09 | 1.15263E-07 | 1.38566E-08 | 2.18092E-09 | 8.93207E-08 | — | — | 3.07504E-09 | 6.83011E-09 | 1.15262E-07 | 1.38566E-08 | 2.18092E-09 | 8.93207E-08 | — | — | 3.07409E-09 | 6.83011E-09 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.66511E-11 | — | 2.66504E-11 | — | — | — | — | — | 2.66504E-11 | — | 2.66421E-11 | — | — | — | — | — | 2.66421E-11 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.58663E-09 | 6.17839E-09 | 4.23467E-08 | 2.25731E-12 | 1.97379E-09 | 3.16026E-08 | — | — | 2.58663E-09 | 6.18144E-09 | 4.23467E-08 | 2.25731E-12 | 1.97379E-09 | 3.16026E-08 | — | — | 2.58663E-09 | 6.18144E-09 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.03647E-07 | 1.73996E-07 | 1.17524E-06 | 1.41206E-09 | 6.56642E-09 | 8.89609E-07 | — | — | 1.03647E-07 | 1.74007E-07 | 1.17524E-06 | 1.41206E-09 | 6.56642E-09 | 8.89609E-07 | — | — | 1.03647E-07 | 1.74007E-07 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.74187E-09 | 7.92059E-10 | 8.6189E-09 | 3.21407E-11 | 2.98923E-12 | 4.04977E-09 | — | — | 3.74187E-09 | 7.92131E-10 | 8.6189E-09 | 3.21407E-11 | 2.98923E-12 | 4.04977E-09 | — | — | 3.74187E-09 | 7.92131E-10 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 5.44815E-09 | 1.05571E-07 | 5.73222E-07 | 5.35605E-08 | 3.372E-08 | 3.7489E-07 | — | — | 5.44815E-09 | 1.05603E-07 | 5.73572E-07 | 5.35605E-08 | 3.372E-08 | 3.7489E-07 | — | — | 5.79757E-09 | 1.05603E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 3.84918E-06 | 1.56188E-07 | 4.46053E-06 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 3.84918E-06 | 1.75647E-07 | 4.46053E-06 | 3.56344E-07 | 5.60858E-08 | 2.32733E-08 | — | — | 3.84918E-06 | 1.75647E-07 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.04526E-07 | — | 1.04526E-07 | — | — | — | — | — | 1.04526E-07 | — | 1.04525E-07 | — | — | — | — | — | 1.04525E-07 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 |
| **Common Name** | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.68912E-06 | 0.00000702 | 7.02E-08 | — | — | — | 1.41919E-07 | 0.000002457 | 8.96441E-05 | 6.59148E-05 | 6.59148E-07 | — | — | — | 0 | 2.30702E-05 | 8.97848E-05 | 6.59148E-05 |
| Arsenic (As) | Arsenic | As | Yes | 5.09589E-05 | 1.70007E-05 | 5.77186E-07 | — | — | — | 3.24013E-07 | 3.3057E-05 | 0.000293046 | 9.83906E-05 | 3.34042E-06 | — | — | — | 0 | 0.000191315 | 0.000295578 | 9.83906E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 6.28415E-07 | 3.9348E-07 | 1.39882E-08 | — | — | — | 6.95102E-10 | 2.20314E-07 | 1.85874E-06 | 1.16495E-06 | 4.14205E-08 | — | — | — | 0 | 6.52372E-07 | 1.87562E-06 | 1.16495E-06 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.001444126 | 0.000318805 | 7.08456E-06 | — | — | — | 2.41727E-06 | 0.001115819 | 0.015213533 | 0.003364172 | 7.47594E-05 | — | — | — | 0 | 0.011774601 | 0.01521916 | 0.003364172 |
| Copper (Cu) | Copper | Cu | Yes | 0.008397133 | 0.00691601 | 0.000268956 | — | — | — | 1.8649E-06 | 0.001210302 | 0.013401381 | 0.011040039 | 0.000429335 | — | — | — | 0 | 0.001932007 | 0.013414042 | 0.011040039 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.26529E-05 | 8.83776E-06 | 2.40038E-08 | — | — | — | 4.35116E-08 | 1.37476E-05 | 0.000350905 | 0.000137165 | 3.72547E-07 | — | — | — | 0 | 0.000213368 | 0.000352636 | 0.000137165 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.98569E-05 | 2.754E-05 | 3.36601E-07 | — | — | — | 5.24604E-08 | 1.9278E-06 | 0.000208732 | 0.000192873 | 2.35734E-06 | — | — | — | 0 | 1.35011E-05 | 0.000209998 | 0.000192873 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 0 | — | — | — | — | — | 0 | — | 9.87555E-08 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.0806E-06 | 4.44849E-09 | 3.02058E-07 | — | — | — | 4.4128E-08 | 1.72997E-06 | 2.21213E-05 | 4.83219E-08 | 3.28112E-06 | — | — | — | 0 | 1.87919E-05 | 2.21318E-05 | 4.83219E-08 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 5.47302E-05 | 0.000002808 | 0.000001014 | — | — | — | 1.76822E-06 | 0.00004914 | 6.3238E-05 | 3.35282E-06 | 1.21074E-06 | — | — | — | 0 | 5.86744E-05 | 0.001869535 | 3.35282E-06 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.52148E-07 | 6.39667E-08 | 4.61981E-10 | — | — | — | 6.38365E-08 | 2.23883E-07 | 5.40459E-07 | 1.1991E-07 | 8.66013E-10 | — | — | — | 0 | 4.19683E-07 | 5.72505E-07 | 1.1991E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.000141366 | 0.000106309 | 5.19732E-06 | — | — | — | 9.29458E-08 | 2.97665E-05 | 0.000931743 | 0.000701145 | 3.42782E-05 | — | — | — | 0 | 0.00019632 | 0.000931996 | 0.000701145 |
| Aluminum (Al) | Aluminum | Al | Yes | 6.56672E-05 | — | — | — | — | — | 6.56672E-05 | — | 1.875194971 | 1.732726359 | 0.021177767 | — | — | — | 0 | 0.121290845 | 1.875215967 | 1.732726359 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 0 | — | — | — | — | — | 0 | — | 0.000492371 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — |
| **Common Name** | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 6.59148E-07 | — | — | — | 1.40677E-07 | 2.30702E-05 | 8.96441E-05 | 6.59148E-05 | 6.59148E-07 | — | — | — | 0 | 2.30702E-05 | 1.25738E-06 | 8.65956E-07 | 8.65956E-09 | — |
| Arsenic (As) | Arsenic | As | Yes | 3.34042E-06 | — | — | — | 2.53219E-06 | 0.000191315 | 0.000293046 | 9.83906E-05 | 3.34042E-06 | — | — | — | 0 | 0.000191315 | 3.43399E-06 | 1.08576E-06 | 3.68621E-08 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 4.14205E-08 | — | — | — | 1.68813E-08 | 6.52372E-07 | 1.85874E-06 | 1.16495E-06 | 4.14205E-08 | — | — | — | 0 | 6.52372E-07 | 2.69343E-08 | 1.63849E-08 | 5.82575E-10 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 7.47594E-05 | — | — | — | 5.62709E-06 | 0.011774601 | 0.015213533 | 0.003364172 | 7.47594E-05 | — | — | — | 0 | 0.011774601 | 0.000125524 | 2.74772E-05 | 6.10605E-07 | — |
| Copper (Cu) | Copper | Cu | Yes | 0.000429335 | — | — | — | 1.2661E-05 | 0.001932007 | 0.013401381 | 0.011040039 | 0.000429335 | — | — | — | 0 | 0.001932007 | 0.000158659 | 0.000128451 | 4.99533E-06 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 3.72547E-07 | — | — | — | 1.73033E-06 | 0.000213368 | 0.000350905 | 0.000137165 | 3.72547E-07 | — | — | — | 0 | 0.000213368 | 5.09528E-06 | 1.96767E-06 | 5.34428E-09 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.35734E-06 | — | — | — | 1.2661E-06 | 1.35011E-05 | 0.000208732 | 0.000192873 | 2.35734E-06 | — | — | — | 0 | 1.35011E-05 | 1.70872E-06 | 1.5672E-06 | 1.91546E-08 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 9.87555E-08 | — | 0 | — | — | — | — | — | 0 | — | 1.09728E-10 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 3.28112E-06 | — | — | — | 1.05508E-08 | 1.87919E-05 | 2.21213E-05 | 4.83219E-08 | 3.28112E-06 | — | — | — | 0 | 1.87919E-05 | 4.61834E-07 | 9.62941E-10 | 6.53849E-08 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.21074E-06 | — | — | — | 0.001806297 | 5.86744E-05 | 6.3238E-05 | 3.35282E-06 | 1.21074E-06 | — | — | — | 0 | 5.86744E-05 | 3.16737E-06 | 1.2318E-07 | 4.44816E-08 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 8.66013E-10 | — | — | — | 3.20465E-08 | 4.19683E-07 | 5.40459E-07 | 1.1991E-07 | 8.66013E-10 | — | — | — | 0 | 4.19683E-07 | 4.04403E-08 | 1.8623E-09 | 1.34499E-11 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 3.42782E-05 | — | — | — | 2.53219E-07 | 0.00019632 | 0.000931743 | 0.000701145 | 3.42782E-05 | — | — | — | 0 | 0.00019632 | 1.17106E-05 | 8.66938E-06 | 4.23836E-07 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 0.021177767 | — | — | — | 2.09961E-05 | 0.121290845 | 1.875194971 | 1.732726359 | 0.021177767 | — | — | — | 0 | 0.121290845 | 0.015187613 | 0.014007064 | 0.000171197 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0.000492371 | — | 0 | — | — | — | — | — | 0 | — | 1.02059E-06 | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — |
| Common Name | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |
| Chemical Property | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| Wet Ingestion Rates | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 7.96837E-08 | 3.03085E-07 | 8.96441E-05 | 6.59148E-05 | 6.59148E-07 | — | — | — | 0 | 2.30702E-05 | 8.97848E-05 | 6.59148E-05 | 6.59148E-07 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 2.0018E-07 | 2.11119E-06 | 0.000293046 | 9.83906E-05 | 3.34042E-06 | — | — | — | 0 | 0.000191315 | 0.000295578 | 9.83906E-05 | 3.34042E-06 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 7.91239E-10 | 9.17555E-09 | 1.85874E-06 | 1.16495E-06 | 4.14205E-08 | — | — | — | 0 | 6.52372E-07 | 1.87562E-06 | 1.16495E-06 | 4.14205E-08 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 1.2661E-06 | 9.61703E-05 | 0.015213533 | 0.003364172 | 7.47594E-05 | — | — | — | 0 | 0.011774601 | 0.01521916 | 0.003364172 | 7.47594E-05 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 2.73322E-06 | 2.2479E-05 | 0.013401381 | 0.011040039 | 0.000429335 | — | — | — | 0 | 0.001932007 | 0.013414042 | 0.011040039 | 0.000429335 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 6.14563E-08 | 3.06081E-06 | 0.000350905 | 0.000137165 | 3.72547E-07 | — | — | — | 0 | 0.000213368 | 0.000352636 | 0.000137165 | 3.72547E-07 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 1.2661E-08 | 1.09704E-07 | 0.000208732 | 0.000192873 | 2.35734E-06 | — | — | — | 0 | 1.35011E-05 | 0.000209998 | 0.000192873 | 2.35734E-06 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 1.09728E-10 | — | 0 | — | — | — | — | — | 0 | — | 9.87555E-08 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 2.10088E-08 | 3.74477E-07 | 2.21213E-05 | 4.83219E-08 | 3.28112E-06 | — | — | — | 0 | 1.87919E-05 | 2.21318E-05 | 4.83219E-08 | 3.28112E-06 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 8.44064E-07 | 2.15565E-06 | 6.3238E-05 | 3.35282E-06 | 1.21074E-06 | — | — | — | 0 | 5.86744E-05 | 0.001869535 | 3.35282E-06 | 1.21074E-06 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 3.20465E-08 | 6.51805E-09 | 5.40459E-07 | 1.1991E-07 | 8.66013E-10 | — | — | — | 0 | 4.19683E-07 | 5.72505E-07 | 1.1991E-07 | 8.66013E-10 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 1.89914E-07 | 2.42743E-06 | 0.000931743 | 0.000701145 | 3.42782E-05 | — | — | — | 0 | 0.00019632 | 0.000931996 | 0.000701145 | 3.42782E-05 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 2.88564E-05 | 0.000980494 | 1.875194971 | 1.732726359 | 0.021177767 | — | — | — | 0 | 0.121290845 | 1.875215967 | 1.732726359 | 0.021177767 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 1.02059E-06 | — | 0 | — | — | — | — | — | 0 | — | 0.000492371 | — | — | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of Media_Water (supernatant) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Waste Rock (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of Media_Water (pit lake dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 1.40677E-07 | 2.30702E-05 | 8.9786E-05 | 6.59148E-05 | 6.59148E-07 | — | — | — | 1.41919E-07 | 2.30702E-05 | 1.08046E-05 | 7.88596E-06 | 7.88596E-08 | — | — | — | 7.96837E-08 | 2.76008E-06 |
| Arsenic (As) | Arsenic | As | Yes | 2.53219E-06 | 0.000191315 | 0.00029337 | 9.83906E-05 | 3.34042E-06 | — | — | — | 3.24013E-07 | 0.000191315 | 5.40689E-05 | 1.80865E-05 | 6.14048E-07 | — | — | — | 2.0018E-07 | 3.51682E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 1.68813E-08 | 6.52372E-07 | 1.85944E-06 | 1.16495E-06 | 4.14205E-08 | — | — | — | 6.95102E-10 | 6.52372E-07 | 6.54654E-07 | 4.09803E-07 | 1.45708E-08 | — | — | — | 7.91239E-10 | 2.2949E-07 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 5.62709E-06 | 0.011774601 | 0.01521595 | 0.003364172 | 7.47594E-05 | — | — | — | 2.41727E-06 | 0.011774601 | 0.001567233 | 0.000346283 | 7.69517E-06 | — | — | — | 1.2661E-06 | 0.001211989 |
| Copper (Cu) | Copper | Cu | Yes | 1.2661E-05 | 0.001932007 | 0.013403246 | 0.011040039 | 0.000429335 | — | — | — | 1.8649E-06 | 0.001932007 | 0.008553927 | 0.007044462 | 0.000273951 | — | — | — | 2.73322E-06 | 0.001232781 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 1.73033E-06 | 0.000213368 | 0.000350949 | 0.000137165 | 3.72547E-07 | — | — | — | 4.35116E-08 | 0.000213368 | 2.77047E-05 | 1.08054E-05 | 2.93481E-08 | — | — | — | 6.14563E-08 | 1.68084E-05 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 1.2661E-06 | 1.35011E-05 | 0.000208784 | 0.000192873 | 2.35734E-06 | — | — | — | 5.24604E-08 | 1.35011E-05 | 3.15132E-05 | 2.91072E-05 | 3.55755E-07 | — | — | — | 1.2661E-08 | 2.03751E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 9.87555E-08 | — | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 1.09728E-10 | — | — | — | — | — | 1.09728E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 1.05508E-08 | 1.87919E-05 | 2.21654E-05 | 4.83219E-08 | 3.28112E-06 | — | — | — | 4.4128E-08 | 1.87919E-05 | 2.49831E-06 | 5.41143E-09 | 3.67443E-07 | — | — | — | 2.10088E-08 | 2.10445E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.001806297 | 5.86744E-05 | 6.50062E-05 | 3.35282E-06 | 1.21074E-06 | — | — | — | 1.76822E-06 | 5.86744E-05 | 5.61294E-05 | 2.93118E-06 | 1.05848E-06 | — | — | — | 8.44064E-07 | 5.12956E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.20465E-08 | 4.19683E-07 | 6.04295E-07 | 1.1991E-07 | 8.66013E-10 | — | — | — | 6.38365E-08 | 4.19683E-07 | 3.28752E-07 | 6.5829E-08 | 4.75431E-10 | — | — | — | 3.20465E-08 | 2.30401E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.53219E-07 | 0.00019632 | 0.000931836 | 0.000701145 | 3.42782E-05 | — | — | — | 9.29458E-08 | 0.00019632 | 0.000152983 | 0.000114978 | 5.62116E-06 | — | — | — | 1.89914E-07 | 3.21939E-05 |
| Aluminum (Al) | Aluminum | Al | Yes | 2.09961E-05 | 0.121290845 | 1.875260638 | 1.732726359 | 0.021177767 | — | — | — | 6.56672E-05 | 0.121290845 | 0.015187613 | 0.014007064 | 0.000171197 | — | — | — | 2.88564E-05 | 0.000980494 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.000492371 | — | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 1.02059E-06 | — | — | — | — | — | 1.02059E-06 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.68912E-06 | 0.00000702 | 7.02E-08 | — | — | — | 1.41919E-07 | 0.000002457 | 4.11914E-09 | 3.02878E-09 | 3.02878E-11 | — | — | — | 0 | 1.06007E-09 | 5.71987E-08 | 4.20402E-08 |
| Arsenic (As) | Arsenic | As | Yes | 5.09589E-05 | 1.70007E-05 | 5.77186E-07 | — | — | — | 3.24013E-07 | 3.3057E-05 | 1.35816E-08 | 4.56003E-09 | 1.54816E-10 | — | — | — | 0 | 8.86672E-09 | 1.53268E-07 | 5.14598E-08 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 6.28415E-07 | 3.93418E-07 | 1.39882E-08 | — | — | — | 6.95102E-10 | 2.20314E-07 | 8.79779E-11 | 5.51393E-11 | 1.96051E-12 | — | — | — | 0 | 3.0878E-11 | 1.27483E-09 | 7.98968E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.001444126 | 0.000318805 | 7.08456E-06 | — | — | — | 2.41727E-06 | 0.001115819 | 6.97994E-07 | 1.54348E-07 | 3.42995E-09 | — | — | — | 0 | 5.40217E-07 | 5.6004E-06 | 1.23842E-06 |
| Copper (Cu) | Copper | Cu | Yes | 0.008397133 | 0.00691601 | 0.000268956 | — | — | — | 1.8649E-06 | 0.001210302 | 6.5744E-07 | 5.41598E-07 | 2.10622E-08 | — | — | — | 0 | 9.47797E-08 | 7.3855E-06 | 6.08416E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.26529E-05 | 8.83776E-06 | 2.40038E-08 | — | — | — | 4.35116E-08 | 1.37476E-05 | 1.60359E-08 | 6.26824E-09 | 1.70248E-11 | — | — | — | 0 | 9.75059E-09 | 2.46958E-07 | 9.6533E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.98569E-05 | 2.754E-05 | 3.36601E-07 | — | — | — | 5.24604E-08 | 1.9278E-06 | 9.6365E-09 | 8.90436E-09 | 1.08831E-10 | — | — | — | 0 | 6.23305E-10 | 7.62639E-08 | 7.04684E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 0 | — | — | — | — | — | 0 | — | 1.28409E-14 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.0806E-06 | 4.44849E-09 | 3.02058E-07 | — | — | — | 4.4128E-08 | 1.72997E-06 | 1.01456E-09 | 2.21622E-12 | 1.50484E-10 | — | — | — | 0 | 8.61863E-10 | 2.2266E-08 | 4.8638E-11 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 5.47302E-05 | 0.000002808 | 0.000001014 | — | — | — | 1.76822E-06 | 0.00004914 | 3.18208E-09 | 1.68711E-10 | 6.09235E-11 | — | — | — | 0 | 2.95244E-09 | 1.20898E-07 | 6.40991E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.52148E-07 | 6.39667E-08 | 4.61981E-10 | — | — | — | 6.38365E-08 | 2.23883E-07 | 2.62133E-11 | 5.81584E-12 | 4.20033E-14 | — | — | — | 0 | 2.03554E-11 | 4.12642E-10 | 9.15514E-11 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.000141366 | 0.000106309 | 5.19732E-06 | — | — | — | 9.29458E-08 | 2.97665E-05 | 4.30649E-08 | 3.24067E-08 | 1.58433E-09 | — | — | — | 0 | 9.07386E-09 | 5.54753E-07 | 4.17456E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 6.56672E-05 | — | — | — | — | — | 6.56672E-05 | — | 8.49715E-05 | 7.85158E-05 | 9.59637E-07 | — | — | — | 0 | 5.4961E-06 | 0.000683522 | 0.000631591 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| Common Name | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |
| Chemical Property | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| Wet Ingestion Rates | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.20402E-10 | — | — | — | 2.40551E-11 | 1.47141E-08 | 6.13033E-08 | 4.5076E-08 | 4.5076E-10 | — | — | — | 0 | 1.57766E-08 | 6.13132E-08 | 4.5076E-08 | 4.5076E-10 | — |
| Arsenic (As) | Arsenic | As | Yes | 1.74709E-09 | — | — | — | 0 | 1.00061E-07 | 1.66882E-07 | 5.60307E-08 | 1.90228E-09 | — | — | — | 0 | 1.08949E-07 | 1.66883E-07 | 5.60307E-08 | 1.90228E-09 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 2.84085E-11 | — | — | — | 0 | 4.47433E-10 | 1.36303E-09 | 8.5427E-10 | 3.0374E-11 | — | — | — | 0 | 4.78391E-10 | 1.36303E-09 | 8.5427E-10 | 3.0374E-11 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.75204E-08 | — | — | — | 0 | 4.33446E-06 | 6.3E-06 | 1.39312E-06 | 3.09582E-08 | — | — | — | 0 | 4.87592E-06 | 6.3E-06 | 1.39312E-06 | 3.09582E-08 | — |
| Copper (Cu) | Copper | Cu | Yes | 2.36606E-07 | — | — | — | 0 | 1.06473E-06 | 8.04483E-06 | 6.62732E-06 | 2.57729E-07 | — | — | — | 0 | 1.15978E-06 | 8.26033E-06 | 6.62732E-06 | 2.57729E-07 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.62188E-10 | — | — | — | 9.15136E-24 | 1.50162E-07 | 2.6303E-07 | 1.02815E-07 | 2.79252E-10 | — | — | — | 0 | 1.59935E-07 | 2.65542E-07 | 1.02815E-07 | 2.79252E-10 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 8.6128E-10 | — | — | — | 1.48164E-12 | 4.93279E-09 | 8.59217E-08 | 7.93937E-08 | 9.70368E-10 | — | — | — | 0 | 5.55756E-09 | 8.59217E-08 | 7.93937E-08 | 9.70368E-10 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 1.28409E-14 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 3.30258E-09 | — | — | — | 5.7196E-24 | 1.89148E-08 | 2.32829E-08 | 5.08593E-11 | 3.45341E-09 | — | — | — | 0 | 1.97786E-08 | 2.32829E-08 | 5.08593E-11 | 3.45341E-09 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 2.31469E-09 | — | — | — | 3.05045E-22 | 1.12173E-07 | 1.2409E-07 | 6.57915E-09 | 2.3758E-09 | — | — | — | 0 | 1.15135E-07 | 1.2409E-07 | 6.57915E-09 | 2.3758E-09 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 6.61204E-13 | — | — | — | 1.11184E-23 | 3.2043E-10 | 4.38929E-10 | 9.73834E-11 | 7.03325E-13 | — | — | — | 0 | 3.40842E-10 | 4.38929E-10 | 9.73834E-11 | 7.03325E-13 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.0409E-08 | — | — | — | 0 | 1.16888E-07 | 5.9792E-07 | 4.4994E-07 | 2.19971E-08 | — | — | — | 0 | 1.25983E-07 | 6.03881E-07 | 4.4994E-07 | 2.19971E-08 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 7.71945E-06 | — | — | — | 0 | 4.42114E-05 | 0.00076868 | 0.000710279 | 8.68119E-06 | — | — | — | 0 | 4.97195E-05 | 0.00076868 | 0.000710279 | 8.68119E-06 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 9.92432E-12 | 1.57766E-08 | 9.69324E-06 | 7.02303E-06 | 7.02303E-08 | — | — | — | 1.41919E-07 | 2.45806E-06 | 9.74632E-06 | 7.06204E-06 | 7.06204E-08 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 1.75371E-12 | 1.08949E-07 | 5.09725E-05 | 1.70053E-05 | 5.7734E-07 | — | — | — | 3.24013E-07 | 3.30659E-05 | 5.11122E-05 | 1.70522E-05 | 5.78933E-07 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 4.78391E-10 | 6.28503E-07 | 3.93473E-07 | 1.39902E-08 | — | — | — | 6.95102E-10 | 2.20345E-07 | 6.2969E-07 | 3.94217E-07 | 1.40166E-08 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 4.87592E-06 | 0.001444824 | 0.00031896 | 7.08799E-06 | — | — | — | 2.41727E-06 | 0.001116359 | 0.001449479 | 0.000320044 | 7.11208E-06 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 2.15501E-07 | 1.15978E-06 | 0.00839779 | 0.006916552 | 0.000268977 | — | — | — | 1.8649E-06 | 0.001210397 | 0.008404518 | 0.006922094 | 0.000269193 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 2.51175E-09 | 1.59935E-07 | 2.26689E-05 | 8.84403E-06 | 2.40208E-08 | — | — | — | 4.35116E-08 | 1.37574E-05 | 2.28999E-05 | 8.93429E-06 | 2.4266E-08 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 5.55756E-09 | 2.98665E-05 | 2.75489E-05 | 3.36709E-07 | — | — | — | 5.24604E-08 | 1.92843E-06 | 2.99332E-05 | 2.76105E-05 | 3.37462E-07 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 4.5467E-10 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 1.97786E-08 | 2.08162E-06 | 4.45071E-09 | 3.02208E-07 | — | — | — | 4.4128E-08 | 1.73083E-06 | 2.10287E-06 | 4.49713E-09 | 3.05361E-07 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.15135E-07 | 5.47334E-05 | 2.80817E-06 | 1.01406E-06 | — | — | — | 1.76822E-06 | 4.9143E-05 | 5.48511E-05 | 2.81441E-06 | 1.01631E-06 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 3.40842E-10 | 3.52175E-07 | 6.39725E-08 | 4.62023E-10 | — | — | — | 6.38365E-08 | 2.23904E-07 | 3.52561E-07 | 6.40582E-08 | 4.62643E-10 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 5.96122E-09 | 1.25983E-07 | 0.000141409 | 0.000106341 | 5.1989E-06 | — | — | — | 9.29458E-08 | 2.97755E-05 | 0.00014192 | 0.000106726 | 5.21773E-06 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 4.97195E-05 | 0.000150639 | 7.85158E-05 | 9.59637E-07 | — | — | — | 6.56672E-05 | 5.4961E-06 | 0.000749189 | 0.000631591 | 7.71945E-06 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 1.78323E-06 | — | — | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 1.41943E-07 | 2.47171E-06 | 9.75042E-06 | 7.06508E-06 | 7.06508E-08 | — | — | — | 1.41919E-07 | 2.47278E-06 | 9.75043E-06 | 7.06508E-06 | 7.06508E-08 | — | — | — | 1.41929E-07 | 2.47278E-06 |
| Arsenic (As) | Arsenic | As | Yes | 3.24013E-07 | 3.31571E-05 | 5.11258E-05 | 1.70568E-05 | 5.79088E-07 | — | — | — | 3.24013E-07 | 3.31659E-05 | 5.11258E-05 | 1.70568E-05 | 5.79088E-07 | — | — | — | 3.24015E-07 | 3.31659E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 6.95102E-10 | 2.20761E-07 | 6.29778E-07 | 3.94272E-07 | 1.40186E-08 | — | — | — | 6.95102E-10 | 2.20792E-07 | 6.29778E-07 | 3.94272E-07 | 1.40186E-08 | — | — | — | 6.95102E-10 | 2.20792E-07 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.16969E-06 | 0.001120153 | 0.001450426 | 0.000320198 | 7.11552E-06 | — | — | — | 2.41727E-06 | 0.001120695 | 0.001450237 | 0.000320198 | 7.11562E-06 | — | — | — | 2.22783E-06 | 0.001120695 |
| Copper (Cu) | Copper | Cu | Yes | 1.8649E-06 | 0.001211367 | 0.008405178 | 0.006922638 | 0.000269214 | — | — | — | 1.8649E-06 | 0.001211462 | 0.008405393 | 0.006922638 | 0.000269214 | — | — | — | 2.0804E-06 | 0.001211462 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 4.35116E-08 | 1.38978E-05 | 2.29159E-05 | 8.94058E-06 | 2.4283E-08 | — | — | — | 4.35116E-08 | 1.39076E-05 | 2.29184E-05 | 8.94058E-06 | 2.4283E-08 | — | — | — | 4.60233E-08 | 1.39076E-05 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.24619E-08 | 1.93274E-06 | 2.99428E-05 | 2.76194E-05 | 3.37571E-07 | — | — | — | 5.24604E-08 | 1.9336E-06 | 2.99428E-05 | 2.76194E-05 | 3.37571E-07 | — | — | — | 5.24442E-08 | 1.93336E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.5467E-10 | — | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 4.54516E-10 | — | — | — | — | — | 4.54516E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 4.4128E-08 | 1.74888E-06 | 2.10389E-06 | 4.49935E-09 | 3.05511E-07 | — | — | — | 4.4128E-08 | 1.74975E-06 | 2.10389E-06 | 4.49935E-09 | 3.05511E-07 | — | — | — | 4.4128E-08 | 1.74975E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.76822E-06 | 4.92522E-05 | 5.48543E-05 | 2.81458E-06 | 1.01638E-06 | — | — | — | 1.76822E-06 | 4.92551E-05 | 5.48543E-05 | 2.81458E-06 | 1.01638E-06 | — | — | — | 1.76822E-06 | 4.92551E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 6.38365E-08 | 2.24204E-07 | 3.52587E-07 | 6.4064E-08 | 4.62685E-10 | — | — | — | 6.38365E-08 | 2.24224E-07 | 3.52587E-07 | 6.4064E-08 | 4.62685E-10 | — | — | — | 6.38365E-08 | 2.24224E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 9.29458E-08 | 2.98834E-05 | 0.000141963 | 0.000106759 | 5.21932E-06 | — | — | — | 9.29458E-08 | 2.98924E-05 | 0.000141969 | 0.000106759 | 5.21932E-06 | — | — | — | 9.8907E-08 | 2.98924E-05 |
| Aluminum (Al) | Aluminum | Al | Yes | 6.56672E-05 | 4.42114E-05 | 0.000834347 | 0.000710279 | 8.68119E-06 | — | — | — | 6.56672E-05 | 4.97195E-05 | 0.000834347 | 0.000710279 | 8.68119E-06 | — | — | — | 6.56672E-05 | 4.97195E-05 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.78323E-06 | — | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 1.7832E-06 | — | — | — | — | — | 1.7832E-06 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| **Common Name** | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 9.68912E-06 | 0.00000702 | 7.02E-08 | — | — | — | 1.41919E-07 | 0.000002457 | 4.11914E-09 | 3.02878E-09 | 3.02878E-11 | — | — | — | 0 | 1.06007E-09 | 5.71987E-08 | 4.20402E-08 |
| Arsenic (As) | Arsenic | As | Yes | 5.09589E-05 | 1.70007E-05 | 5.77186E-07 | — | — | — | 3.24013E-07 | 3.3057E-05 | 1.35816E-08 | 4.56003E-09 | 1.54816E-10 | — | — | — | 0 | 8.86672E-09 | 1.53268E-07 | 5.14598E-08 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 6.28415E-07 | 3.93418E-07 | 1.39882E-08 | — | — | — | 6.95102E-10 | 2.20314E-07 | 8.79779E-11 | 5.51393E-11 | 1.96051E-12 | — | — | — | 0 | 3.0878E-11 | 1.27483E-09 | 7.98968E-10 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.001444126 | 0.000318805 | 7.08456E-06 | — | — | — | 2.41727E-06 | 0.001115819 | 6.97994E-07 | 1.54348E-07 | 3.42995E-09 | — | — | — | 0 | 5.40217E-07 | 5.6004E-06 | 1.23842E-06 |
| Copper (Cu) | Copper | Cu | Yes | 0.008397133 | 0.00691601 | 0.000268956 | — | — | — | 1.8649E-06 | 0.001210302 | 6.5744E-07 | 5.41598E-07 | 2.10622E-08 | — | — | — | 0 | 9.47797E-08 | 7.3855E-06 | 6.08416E-06 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.26529E-05 | 8.83776E-06 | 2.40038E-08 | — | — | — | 4.35116E-08 | 1.37476E-05 | 1.60359E-08 | 6.26824E-09 | 1.70248E-11 | — | — | — | 0 | 9.75059E-09 | 2.46958E-07 | 9.6533E-08 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 2.98569E-05 | 2.754E-05 | 3.36601E-07 | — | — | — | 5.24604E-08 | 1.9278E-06 | 9.6365E-09 | 8.90436E-09 | 1.08831E-10 | — | — | — | 0 | 6.23305E-10 | 7.62639E-08 | 7.04684E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 0 | — | — | — | — | — | 0 | — | 1.28409E-14 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 2.0806E-06 | 4.44849E-09 | 3.02058E-07 | — | — | — | 4.4128E-08 | 1.72997E-06 | 1.01456E-09 | 2.21622E-12 | 1.50484E-10 | — | — | — | 0 | 8.61863E-10 | 2.2266E-08 | 4.8638E-11 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 5.47302E-05 | 0.000002808 | 0.000001014 | — | — | — | 1.76822E-06 | 0.00004914 | 3.18208E-09 | 1.68711E-10 | 6.09235E-11 | — | — | — | 0 | 2.95244E-09 | 1.20898E-07 | 6.40991E-09 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 3.52148E-07 | 6.39667E-08 | 4.61981E-10 | — | — | — | 6.38365E-08 | 2.23883E-07 | 2.62133E-11 | 5.81584E-12 | 4.20033E-14 | — | — | — | 0 | 2.03554E-11 | 4.12642E-10 | 9.15514E-11 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.000141366 | 0.000106309 | 5.19732E-06 | — | — | — | 9.29458E-08 | 2.97665E-05 | 4.30649E-08 | 3.24067E-08 | 1.58433E-09 | — | — | — | 0 | 9.07386E-09 | 5.54753E-07 | 4.17456E-07 |
| Aluminum (Al) | Aluminum | Al | Yes | 6.56672E-05 | — | — | — | — | — | 6.56672E-05 | — | 8.49715E-05 | 7.85158E-05 | 9.59637E-07 | — | — | — | 0 | 5.4961E-06 | 0.000683522 | 0.000631591 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| Common Name | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |
| Chemical Property | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| Wet Ingestion Rates | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 4.20402E-10 | — | — | — | 2.40551E-11 | 1.47141E-08 | 6.13033E-08 | 4.5076E-08 | 4.5076E-10 | — | — | — | 0 | 1.57766E-08 | 6.13132E-08 | 4.5076E-08 | 4.5076E-10 | — |
| Arsenic (As) | Arsenic | As | Yes | 1.74709E-09 | — | — | — | 0 | 1.00061E-07 | 1.66882E-07 | 5.60307E-08 | 1.90228E-09 | — | — | — | 0 | 1.08949E-07 | 1.66883E-07 | 5.60307E-08 | 1.90228E-09 | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 2.84085E-11 | — | — | — | 0 | 4.47433E-10 | 1.36303E-09 | 8.5427E-10 | 3.0374E-11 | — | — | — | 0 | 4.78391E-10 | 1.36303E-09 | 8.5427E-10 | 3.0374E-11 | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.75204E-08 | — | — | — | 0 | 4.33446E-06 | 6.3E-06 | 1.39312E-06 | 3.09582E-08 | — | — | — | 0 | 4.87592E-06 | 6.3E-06 | 1.39312E-06 | 3.09582E-08 | — |
| Copper (Cu) | Copper | Cu | Yes | 2.36606E-07 | — | — | — | 0 | 1.06473E-06 | 8.04483E-06 | 6.62732E-06 | 2.57729E-07 | — | — | — | 0 | 1.15978E-06 | 8.26033E-06 | 6.62732E-06 | 2.57729E-07 | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 2.62188E-10 | — | — | — | 9.15136E-24 | 1.50162E-07 | 2.6303E-07 | 1.02815E-07 | 2.79252E-10 | — | — | — | 0 | 1.59935E-07 | 2.65542E-07 | 1.02815E-07 | 2.79252E-10 | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 8.6128E-10 | — | — | — | 1.48164E-12 | 4.93279E-09 | 8.59217E-08 | 7.93937E-08 | 9.70368E-10 | — | — | — | 0 | 5.55756E-09 | 8.59217E-08 | 7.93937E-08 | 9.70368E-10 | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | — | — | 1.28409E-14 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 3.30258E-09 | — | — | — | 5.7196E-24 | 1.89148E-08 | 2.32829E-08 | 5.08593E-11 | 3.45341E-09 | — | — | — | 0 | 1.97786E-08 | 2.32829E-08 | 5.08593E-11 | 3.45341E-09 | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 2.31469E-09 | — | — | — | 3.05045E-22 | 1.12173E-07 | 1.2409E-07 | 6.57915E-09 | 2.3758E-09 | — | — | — | 0 | 1.15135E-07 | 1.2409E-07 | 6.57915E-09 | 2.3758E-09 | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 6.61204E-13 | — | — | — | 1.11184E-23 | 3.2043E-10 | 4.38929E-10 | 9.73834E-11 | 7.03325E-13 | — | — | — | 0 | 3.40842E-10 | 4.38929E-10 | 9.73834E-11 | 7.03325E-13 | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 2.0409E-08 | — | — | — | 0 | 1.16888E-07 | 5.9792E-07 | 4.4994E-07 | 2.19971E-08 | — | — | — | 0 | 1.25983E-07 | 6.03881E-07 | 4.4994E-07 | 2.19971E-08 | — |
| Aluminum (Al) | Aluminum | Al | Yes | 7.71945E-06 | — | — | — | 0 | 4.42114E-05 | 0.00076868 | 0.000710279 | 8.68119E-06 | — | — | — | 0 | 4.97195E-05 | 0.00076868 | 0.000710279 | 8.68119E-06 | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| **Common Name** | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | — | — | 9.92432E-12 | 1.57766E-08 | 9.69324E-06 | 7.02303E-06 | 7.02303E-08 | — | — | — | 1.41919E-07 | 2.45806E-06 | 9.74632E-06 | 7.06204E-06 | 7.06204E-08 | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | — | — | 1.75371E-12 | 1.08949E-07 | 5.09725E-05 | 1.70053E-05 | 5.7734E-07 | — | — | — | 3.24013E-07 | 3.30659E-05 | 5.11122E-05 | 1.70522E-05 | 5.78933E-07 | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | — | — | 0 | 4.78391E-10 | 6.28503E-07 | 3.93473E-07 | 1.39902E-08 | — | — | — | 6.95102E-10 | 2.20345E-07 | 6.2969E-07 | 3.94217E-07 | 1.40166E-08 | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | — | — | 0 | 4.87592E-06 | 0.001444824 | 0.00031896 | 7.08799E-06 | — | — | — | 2.41727E-06 | 0.001116359 | 0.001449479 | 0.000320044 | 7.11208E-06 | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | — | — | 2.15501E-07 | 1.15978E-06 | 0.00839779 | 0.006916552 | 0.000268977 | — | — | — | 1.8649E-06 | 0.001210397 | 0.008404518 | 0.006922094 | 0.000269193 | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | — | — | 2.51175E-09 | 1.59935E-07 | 2.26689E-05 | 8.84403E-06 | 2.40208E-08 | — | — | — | 4.35116E-08 | 1.37574E-05 | 2.28999E-05 | 8.93429E-06 | 2.4266E-08 | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | — | — | 0 | 5.55756E-09 | 2.98665E-05 | 2.75489E-05 | 3.36709E-07 | — | — | — | 5.24604E-08 | 1.92843E-06 | 2.99332E-05 | 2.76105E-05 | 3.37462E-07 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | — | — | 0 | — | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 4.5467E-10 | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | 0 | 1.97786E-08 | 2.08162E-06 | 4.45071E-09 | 3.02208E-07 | — | — | — | 4.4128E-08 | 1.73083E-06 | 2.10287E-06 | 4.49713E-09 | 3.05361E-07 | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | — | — | 0 | 1.15135E-07 | 5.47334E-05 | 2.80817E-06 | 1.01406E-06 | — | — | — | 1.76822E-06 | 4.9143E-05 | 5.48511E-05 | 2.81441E-06 | 1.01631E-06 | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | — | — | 0 | 3.40842E-10 | 3.52175E-07 | 6.39725E-08 | 4.62023E-10 | — | — | — | 6.38365E-08 | 2.23904E-07 | 3.52561E-07 | 6.40582E-08 | 4.62643E-10 | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | — | — | 5.96122E-09 | 1.25983E-07 | 0.000141409 | 0.000106341 | 5.1989E-06 | — | — | — | 9.29458E-08 | 2.97755E-05 | 0.00014192 | 0.000106726 | 5.21773E-06 | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | — | — | 0 | 4.97195E-05 | 0.000150639 | 7.85158E-05 | 9.59637E-07 | — | — | — | 6.56672E-05 | 5.4961E-06 | 0.000749189 | 0.000631591 | 7.71945E-06 | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | 0 | — | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 1.78323E-06 | — | — | — | — | — |

**TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE**

**Snowshoe Hare**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| **Common Name** | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |
| **Chemical Property** | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient | Small Mammal Transfer Coefficient |
| **Wet Ingestion Rates** | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 | — | 0.259519409 | 0.047023361 | — | — | — | 0.070338655 | 0.004914 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) | Concentration in Snowshoe Hare (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_1 (mg/kg) | Concentration in Snowshoe Hare from the consumption of Plant_2 (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of — (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Water (dry) (mg/kg) | Concentration in Snowshoe Hare from the consumption of media_Soil (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 1.41943E-07 | 2.47171E-06 | 9.75042E-06 | 7.06508E-06 | 7.06508E-08 | — | — | — | 1.41919E-07 | 2.47278E-06 | 9.75043E-06 | 7.06508E-06 | 7.06508E-08 | — | — | — | 1.41929E-07 | 2.47278E-06 |
| Arsenic (As) | Arsenic | As | Yes | 3.24013E-07 | 3.31571E-05 | 5.11258E-05 | 1.70568E-05 | 5.79088E-07 | — | — | — | 3.24013E-07 | 3.31659E-05 | 5.11258E-05 | 1.70568E-05 | 5.79088E-07 | — | — | — | 3.24015E-07 | 3.31659E-05 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 6.95102E-10 | 2.20761E-07 | 6.29778E-07 | 3.94272E-07 | 1.40186E-08 | — | — | — | 6.95102E-10 | 2.20792E-07 | 6.29778E-07 | 3.94272E-07 | 1.40186E-08 | — | — | — | 6.95102E-10 | 2.20792E-07 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 2.16969E-06 | 0.001120153 | 0.001450426 | 0.000320198 | 7.11552E-06 | — | — | — | 2.41727E-06 | 0.001120695 | 0.001450237 | 0.000320198 | 7.11552E-06 | — | — | — | 2.22783E-06 | 0.001120695 |
| Copper (Cu) | Copper | Cu | Yes | 1.8649E-06 | 0.001211367 | 0.008405178 | 0.006922638 | 0.000269214 | — | — | — | 1.8649E-06 | 0.001211462 | 0.008405393 | 0.006922638 | 0.000269214 | — | — | — | 2.0804E-06 | 0.001211462 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 4.35116E-08 | 1.38978E-05 | 2.29159E-05 | 8.94058E-06 | 2.4283E-08 | — | — | — | 4.35116E-08 | 1.39076E-05 | 2.29184E-05 | 8.94058E-06 | 2.4283E-08 | — | — | — | 4.60233E-08 | 1.39076E-05 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 5.24619E-08 | 1.93274E-06 | 2.99428E-05 | 2.76194E-05 | 3.37571E-07 | — | — | — | 5.24604E-08 | 1.9336E-06 | 2.99428E-05 | 2.76194E-05 | 3.37571E-07 | — | — | — | 5.24442E-08 | 1.93336E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 4.5467E-10 | — | 4.54657E-10 | — | — | — | — | — | 4.54657E-10 | — | 4.54516E-10 | — | — | — | — | — | 4.54516E-10 | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 4.4128E-08 | 1.74888E-06 | 2.10389E-06 | 4.49935E-09 | 3.05511E-07 | — | — | — | 4.4128E-08 | 1.74975E-06 | 2.10389E-06 | 4.49935E-09 | 3.05511E-07 | — | — | — | 4.4128E-08 | 1.74975E-06 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 1.76822E-06 | 4.92522E-05 | 5.48543E-05 | 2.81458E-06 | 1.01638E-06 | — | — | — | 1.76822E-06 | 4.92551E-05 | 5.48543E-05 | 2.81458E-06 | 1.01638E-06 | — | — | — | 1.76822E-06 | 4.92551E-05 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 6.38365E-08 | 2.24204E-07 | 3.52587E-07 | 6.4064E-08 | 4.62685E-10 | — | — | — | 6.38365E-08 | 2.24224E-07 | 3.52587E-07 | 6.4064E-08 | 4.62685E-10 | — | — | — | 6.38365E-08 | 2.24224E-07 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 9.29458E-08 | 2.98834E-05 | 0.000141963 | 0.000106759 | 5.21932E-06 | — | — | — | 9.29458E-08 | 2.98924E-05 | 0.000141969 | 0.000106759 | 5.21932E-06 | — | — | — | 9.8907E-08 | 2.98924E-05 |
| Aluminum (Al) | Aluminum | Al | Yes | 6.56672E-05 | 4.42114E-05 | 0.000834347 | 0.000710279 | 8.68119E-06 | — | — | — | 6.56672E-05 | 4.97195E-05 | 0.000834347 | 0.000710279 | 8.68119E-06 | — | — | — | 6.56672E-05 | 4.97195E-05 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Luthetium (Lu) | Luthetium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 1.78323E-06 | — | 1.78323E-06 | — | — | — | — | — | 1.78323E-06 | — | 1.7832E-06 | — | — | — | — | — | 1.7832E-06 | — |

**TABLE IV-18: CHEMICAL CONCENTRATIONS IN "MEASURED FISH"**

**measured fish**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Media** | Fish | — | — | — | — | — | — | — | — | Fish | — | — | — | — | — | — | — | — | Fish | — | — | — | — | — | — | — | — |
| **Chemical Property** | — | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | — | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | — | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish |
| Wet/Dry Ratio Conversion | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) | Concentration in measured fish (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.003151879 | — | — | — | — | — | — | — | — | 0.003151879 | — | — | — | — | — | — | — | 0.003151879 | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | Yes | 0.042194487 | — | — | — | — | — | — | — | — | 0.042194487 | — | — | — | — | — | — | — | 0.042194487 | — | — | — | — | — | — | — | — |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.002193255 | — | — | — | — | — | — | — | — | 0.002193255 | — | — | — | — | — | — | — | 0.002193255 | — | — | — | — | — | — | — | — |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.005753317 | — | — | — | — | — | — | — | — | 0.005753317 | — | — | — | — | — | — | — | 0.005753317 | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | Yes | 0.199477672 | — | — | — | — | — | — | — | — | 0.199477672 | — | — | — | — | — | — | — | 0.199477672 | — | — | — | — | — | — | — | — |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.016142412 | — | — | — | — | — | — | — | — | 0.016142412 | — | — | — | — | — | — | — | 0.016142412 | — | — | — | — | — | — | — | — |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 0.225034928 | — | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | 0.225034928 | — | — | — | — | — | — | — | — |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.004371558 | — | — | — | — | — | — | — | — | 0.004371558 | — | — | — | — | — | — | — | 0.004371558 | — | — | — | — | — | — | — | — |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.001751031 | — | — | — | — | — | — | — | — | 0.001751031 | — | — | — | — | — | — | — | 0.001751031 | — | — | — | — | — | — | — | — |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 8.852131742 | — | — | — | — | — | — | — | — | 8.852131742 | — | — | — | — | — | — | — | 8.852131742 | — | — | — | — | — | — | — | — |
| Aluminum (Al) | Aluminum | Al | Yes | 2.946883115 | — | — | — | — | — | — | — | — | 2.946883115 | — | — | — | — | — | — | — | 2.946883115 | — | — | — | — | — | — | — | — |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**TABLE IV-19: CHEMICAL CONCENTRATIONS IN "MODELLED FISH"**
**(referred to herein as generic fish)**

**generic fish**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project | Project | Project | Base | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project |
| **Phase** | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **Media** | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) | Water (dry) |
| **Chemical Property** | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish | Water to Fish |
| Wet/Dry Ratio Conversion | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |

| Parameter and Symbol | Parameter | Symbol | Screen Parameter On? | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) | Concentration in generic fish (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony (Sb) | Antimony | Sb | Yes | 0.004590149 | 0 | 7.78026E-07 | 0 | 3.209870E-07 | 0 | 0.004590027 | 0.004590149 | 0.004590047 | 0.004590149 | 0 | 7.78026E-07 | 0 | 3.209870E-07 | 0.004590149 | 0.004590027 | 0.004590149 | 0.004590047 | 0.004590149 | 0 | 7.78026E-07 | 0 | 3.209870E-07 | 0.004590149 | 0.004590027 | 0.004590149 | 0.004590047 | 0.004590047 |
| Arsenic (As) | Arsenic | As | Yes | 0.008063326 | 0 | 0 | 0 | 4.36317E-08 | 0 | 0.008061326 | 0.008061326 | 0.008061326 | 0.008061326 | 0 | 0 | 0 | 4.36317E-08 | 0.008061326 | 0.008061326 | 0.008061326 | 0.008061326 | 0.008061326 | 0 | 0 | 0 | 4.36317E-08 | 0.008061326 | 0.008061326 | 0.008061326 | 0.008061326 | 0.008061326 |
| Barium (Ba) | Barium | Ba | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Beryllium (Be) | Beryllium | Be | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Bismuth (Bi) | Bismuth | Bi | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Boron (B) | Boron | B | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cadmium (Cd) | Cadmium | Cd | Yes | 0.002882315 | 0 | 0 | 0 | 0 | 0 | 0.002882315 | 0.002882315 | 0.002882315 | 0.002882315 | 0 | 0 | 0 | 0 | 0.002882315 | 0.002882315 | 0.002882315 | 0.002882315 | 0.002882315 | 0 | 0 | 0 | 0 | 0.002882315 | 0.002882315 | 0.002882315 | 0.002882315 | 0.002882315 |
| Chromium (Cr) | Chromium | Cr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | Yes | 0.041239462 | 0 | 0 | 0 | 0 | 0 | 0.037015672 | 0.041239462 | 0.038007497 | 0.041239462 | 0 | 0 | 0 | 0 | 0.041239462 | 0.037015672 | 0.041239462 | 0.038007497 | 0.041239462 | 0 | 0 | 0 | 0 | 0.041239462 | 0.037015672 | 0.041239462 | 0.038007497 | 0.038007497 |
| Copper (Cu) | Copper | Cu | Yes | 0.082190803 | 0 | 0 | 0 | 0.009497668 | 0 | 0.082190803 | 0.082190803 | 0.081688471 | 0.082190803 | 0 | 0 | 0 | 0.009497668 | 0.082190803 | 0.082190803 | 0.082190803 | 0.082190803 | 0.091688471 | 0.082190803 | 0 | 0 | 0 | 0.009497668 | 0.082190803 | 0.082190803 | 0.082190803 | 0.091688471 |
| Iron (Fe) | Iron | Fe | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | Yes | 0.00927902 | 0 | 1.95156E-18 | 0 | 0.00053564 | 0 | 0.00927902 | 0.00927902 | 0.00981466 | 0.00927902 | 0 | 1.95156E-18 | 0 | 0.00053564 | 0.00927902 | 0.00927902 | 0.00927902 | 0.00981466 | 0.00927902 | 0 | 1.95156E-18 | 0 | 0.00053564 | 0.00927902 | 0.00927902 | 0.00927902 | 0.00927902 | 0.00981466 |
| Lithium (Li) | Lithium | Li | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Manganese (Mn) | Manganese | Mn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | Yes | 0.083905476 | 0 | 2.36974E-06 | 0 | 0 | 0 | 0.083907846 | 0.083905476 | 0.083879458 | 0.083905476 | 0 | 2.36974E-06 | 0 | 0 | 0.083905476 | 0.083907846 | 0.083905476 | 0.083879458 | 0.083905476 | 0 | 2.36974E-06 | 0 | 0 | 0.083905476 | 0.083907846 | 0.083905476 | 0.083879458 | 0.083879458 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | Yes | 2.071740153 | 0 | 5.85121E-05 | 0 | 0 | 0 | 2.071798665 | 2.071740153 | 2.071097722 | 2.071740153 | 0 | 5.85121E-05 | 0 | 0 | 2.071740153 | 2.071798665 | 2.071740153 | 2.071097722 | 2.071740153 | 0 | 5.85121E-05 | 0 | 0 | 2.071740153 | 2.071798665 | 2.071740153 | 2.071097722 | 2.071097722 |
| Molybdenum (Mo) | Molybdenum | Mo | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nickel (Ni) | Nickel | Ni | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Phosphorus (P) | Phosphorus | P | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Selenium (Se) | Selenium | Se | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Silver (Ag) | Silver | Ag | Yes | 0.009541178 | 0 | 1.23667E-18 | 0 | 0 | 0 | 0.009541178 | 0.009541178 | 0.009541178 | 0.009541178 | 0 | 1.23667E-18 | 0 | 0 | 0.009541178 | 0.009541178 | 0.009541178 | 0.009541178 | 0.009541178 | 0 | 1.23667E-18 | 0 | 0 | 0.009541178 | 0.009541178 | 0.009541178 | 0.009541178 | 0.009541178 |
| Strontium (Sr) | Strontium | Sr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | Yes | 0.455638187 | 0 | 7.86047E-17 | 0 | 0 | 0 | 0.455638187 | 0.455638187 | 0.455638187 | 0.455638187 | 0 | 7.86047E-17 | 0 | 0 | 0.455638187 | 0.455638187 | 0.455638187 | 0.455638187 | 0.455638187 | 0 | 7.86047E-17 | 0 | 0 | 0.455638187 | 0.455638187 | 0.455638187 | 0.455638187 | 0.455638187 |
| Tin (Sn) | Tin | Sn | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Titanium (Ti) | Titanium | Ti | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Uranium (U) | Uranium | U | Yes | 0.057269909 | 0 | 9.97466E-18 | 0 | 0 | 0 | 0.057269909 | 0.057269909 | 0.057269909 | 0.057269909 | 0 | 9.97466E-18 | 0 | 0 | 0.057269909 | 0.057269909 | 0.057269909 | 0.057269909 | 0.057269909 | 0 | 9.97466E-18 | 0 | 0 | 0.057269909 | 0.057269909 | 0.057269909 | 0.057269909 | 0.057269909 |
| Vanadium (V) | Vanadium | V | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | Yes | 0.917641791 | 0 | 0 | 0 | 0.058854356 | 0 | 0.917641791 | 0.917641791 | 0.976496147 | 0.917641791 | 0 | 0 | 0 | 0.058854356 | 0.917641791 | 0.917641791 | 0.917641791 | 0.976496147 | 0.917641791 | 0 | 0 | 0 | 0.058854356 | 0.917641791 | 0.917641791 | 0.917641791 | 0.976496147 |
| Aluminum (Al) | Aluminum | Al | Yes | 10.26945102 | 0 | 0 | 0 | 0 | 0 | 10.26945102 | 10.26945102 | 10.26945102 | 10.26945102 | 0 | 0 | 0 | 0 | 10.26945102 | 10.26945102 | 10.26945102 | 10.26945102 | 10.26945102 | 0 | 0 | 0 | 0 | 10.26945102 | 10.26945102 | 10.26945102 | 10.26945102 | 10.26945102 |
| Calcium (Ca) | Calcium | Ca | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cerium (Ce) | Cerium | Ce | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cesium (Cs) | Cesium | Cs | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Gallium (Ga) | Gallium | Ga | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Germanium (Ge) | Germanium | Ge | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Hafnium (Hf) | Hafnium | Hf | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Indium (In) | Indium | In | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lanthanum (La) | Lanthanum | La | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Lutherium (Lu) | Lutherium | Lu | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Magnesium (Mg) | Magnesium | Mg | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Niobium (Nb) | Niobium | Nb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Potassium (K) | Potassium | K | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Rubidium (Rb) | Rubidium | Rb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Scandium (Sc) | Scandium | Sc | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sodium (Na) | Sodium | Na | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Sulphur (S) | Sulphur | S | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tantalum (Ta) | Tantalum | Ta | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Technetium (Te) | Technetium | Te | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Terbium (Tb) | Terbium | Tb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Thorium (Th) | Thorium | Th | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Tungsten (W) | Tungsten | W | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Ytterbium (Yb) | Ytterbium | Yb | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Yttrium (Y) | Yttrium | Y | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Zirconium (Zr) | Zirconium | Zr | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Nitrate | Nitrate | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Chloride | Chloride | — | No | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | Yes | 0.165240842 | 0 | 0 | 0 | 0 | 0 | 0.165240842 | 0.165240842 | 0.165238361 | 0.165240842 | 0 | 0 | 0 | 0 | 0.165240842 | 0.165240842 | 0.165240842 | 0.165238361 | 0.165240842 | 0 | 0 | 0 | 0 | 0.165240842 | 0.165240842 | 0.165240842 | 0.165238361 | 0.165238361 |

**TABLE IV-20: HUMAN HEALTH RISK ASSESSMENT RECEPTOR AND EXPOSURE CHARACTERISTICS**

| Characteristics | Model Look Ups | | Receptor | | | | | | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | Infant | Toddler | Child | Teen | Adult | Worker | |
| Active? | — | — | Yes | Yes | Yes | Yes | Yes | No | Health Canada |
| Age | — | — | 0 - 6 mo. | 7 mo. - 4 y | 5 - 11 y | 12 - 19 y | >= 20 y | >= 20 y | Health Canada |
| Lifestage Length (y) | — | LsL | 0.5 | 4.5 | 7 | 8 | 60 | 60 | Health Canada |
| Body weight (kg) | — | BW | 8.2 | 16.5 | 32.9 | 59.7 | 70.7 | 70.7 | Health Canada |
| Soil ingestion rate (kg/d) | — | IRs | 2.00E-05 | 8.00E-05 | 2.00E-05 | 2.00E-05 | 2.00E-05 | 1.00E-04 | Health Canada |
| Inhalation rate ($m^3$/d) | — | IRa | 2.2 | 8.3 | 14.5 | 15.6 | 16.6 | 33.6 | Health Canada |
| Water ingestion rate (L/d) | — | IRw | 0.3 | 0.6 | 0.8 | 1 | 1.5 | 0.21 | Health Canada, US EPA (Worker) |
| Time spent outdoors (h/d) | — | — | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 10 | Health Canada |
| Time spent outdoors (h/d) - applied | — | — | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 10 | Health Canada |
| **Skin surface area ($cm^2$)** | | | | | | | | | |
| - hands | — | SAh | 320 | 430 | 590 | 800 | 890 | 890 | Health Canada |
| - arms | — | SAa | 550 | 890 | 1480 | 2230 | 2500 | 2500 | Health Canada |
| - legs | — | SAl | 910 | 1690 | 3070 | 4970 | 5720 | 5720 | Health Canada |
| - exposed area, not hands | — | SAoth | 1460 | 2580 | 4550 | 7200 | 8220 | 8220 | Calculated |
| - total | — | SAtot | 3620 | 6130 | 10140 | 15470 | 17640 | 6250 | Health Canada, Worker=Assumed |
| **Soil loading to exposed skin ($g/cm^2$/event)** | | | | | | | | | |
| - hands | — | SLh | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.001 | Health Canada |
| - surfaces other than hands | — | SLoth | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.0001 | Health Canada |
| Soil monolayer loading rate ($mg/cm^2$) | — | — | 5 | 5 | 5 | 5 | 5 | 5 | Health Canada |
| **Indigenous food ingestion (kg/d)** | | | | | | | | | |
| - root vegetables | — | | 8.30E-02 | 0.105 | 0.161 | 0.227 | 0.188 | 0 | Health Canada |
| - other vegetables | — | | 7.20E-02 | 0.067 | 0.098 | 0.12 | 0.137 | 0 | Health Canada |
| - fish | — | | 0 | 95 | 170 | 200 | 220 | 0 | Health Canada |
| - wild game | — | | 0 | 85 | 125 | 175 | 270 | 0 | Health Canada |
| – Indigenous consumptions of TABLE IV-7: CHEMICAL CONCENTRATIONS IN FORAGE | Plant_1 | *IIR_Plant_1* | — | — | — | — | — | — | Assumed |
| – Indigenous consumptions of TABLE IV-8: CHEMICAL CONCENTRATIONS IN BERRIES | Plant_2 | *IIR_Plant_2* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-10: CHEMICAL CONCENTRATIONS IN MEDICINAL PANT (e.g Labrador Tea) | Plant_4 | *IIR_Plant_4* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-9: CHEMICAL CONCENTRATIONS IN MACROPHYTES (e.g. Wild Rice) | Plant_3 | *IIR_Plant_3* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-11: CHEMICAL CONCENTRATIONS IN ROOT VEGETABLE | Plant_5 | *IIR_Plant_5* | 0 | 0.0025 | 0.0038 | 0.0045 | 0.0050 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-18: CHEMICAL CONCENTRATIONS IN "MEASURED FISH" | Fish_1 | *IIR_Fish_1* | 0 | 0.0032 | 0.0210 | 0.0067 | 0.0074 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-19: CHEMICAL CONCENTRATIONS IN "MODELLED FISH" (referred to herein as generic fish) | Fish_2 | *IIR_Fish_2* | 0 | 0.0032 | 0.0210 | 0.0067 | 0.0074 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-13: CHEMICAL CONCENTRATIONS IN MOOSE | Meat_1 | *IIR_Meat_1* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-14: CHEMICAL CONCENTRATIONS IN MALLARD DUCK | Meat_2 | *IIR_Meat_2* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-15: CHEMICAL CONCENTRATIONS IN RUFFED GROUSE | Meat_3 | *IIR_Meat_3* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | — | Chan et al., 2014 |
| – Indigenous consumptions of TABLE IV-17: CHEMICAL CONCENTRATIONS IN SNOWSHOE HARE | Meat_14 | *IIR_Meat_14* | 0 | 0.0108 | 0.0158 | 0.0220 | 0.0338 | — | Chan et al., 2014 |
| **Residential Exposure Scenario** | | | | | | | | | |
| Hours per day | 1 | H(1) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Hours per day (outdoors) | 1 | Ho(1) | — | — | — | — | — | — | Health Canada |
| Days per week | 1 | D(1) | 7 | 7 | 7 | 7 | 7 | — | Health Canada |
| Weeks per year | 1 | W(1) | 52 | 52 | 52 | 52 | 52 | — | Health Canada |
| Dermal exposure events per day | 1 | SE(1) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Water contact events per day | 1 | WE(1) | 2 | 2 | 2 | 2 | 2 | — | Health Canada |
| Duration of water contact event (h) | 1 | WEd(1) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | — | Health Canada |
| Days per year of contaminated food ingestion | 1 | Di(1) | 365 | 365 | 365 | 365 | 365 | — | Health Canada |
| Exposure Duration (y) | 1 | ExD4(1) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| Years for carcinogen amortization | 1 | YoA(1) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| **Worker Exposure Scenario** | | | | | | | | | |
| Hours per day | 2 | H(2) | — | — | — | — | — | 10 | Health Canada |
| Hours per day (outdoors) | 2 | Ho(2) | — | — | — | — | — | 10 | Health Canada |
| Days per week | 2 | D(2) | — | — | — | — | — | 5 | Health Canada |
| Weeks per year | 2 | W(2) | — | — | — | — | — | 48 | Health Canada |
| Dermal exposure events per day | 2 | SE(2) | — | — | — | — | — | 1 | Health Canada |
| Water contact events per day | 2 | WE(2) | — | — | — | — | — | 1 | Health Canada |
| Duration of water contact event (h) | 2 | WEd(2) | — | — | — | — | — | 0.5 | Health Canada |
| Days/year of contaminated food ingestion | 2 | Di(2) | — | — | — | — | — | 0 | Assumed |
| Exposure During Life Stage | 2 | ExD(2) | — | — | — | — | — | 35 | Health Canada |
| Years for carcinogen amortization | 2 | YoA(2) | — | — | — | — | — | 80 | Health Canada |
| **Vistor/Harvester Exposure Scenario** | | | | | | | | | |
| Hours per day | 3 | H(3) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Hours per day (outdoors) | 3 | Ho(3) | 24 | 24 | 24 | 24 | 24 | — | Health Canada |
| Days per week | 3 | D(3) | 7 | 7 | 7 | 7 | 7 | — | Health Canada |
| Weeks per year | 3 | W(3) | 13 | 13 | 13 | 13 | 13 | — | Health Canada |
| Dermal exposure events per day | 3 | SE(3) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Water contact events per day | 3 | WE(3) | 1 | 1 | 1 | 1 | 1 | — | Health Canada |
| Duration of water contact event (h) | 3 | WEd(3) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | — | Health Canada |
| Days/year of contaminated food ingestion | 3 | Di(3) | 365 | 365 | 365 | 365 | 365 | — | Health Canada |
| Exposure During Life Stage | 3 | ExD(3) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| Years for carcinogen amortization | 3 | YoA(3) | 80 | 80 | 80 | 80 | 80 | — | Health Canada |
| **Exposure Scenario for Lead** | | | | | | | | | |
| Hours per day | 4 | H(4) | 24 | 24 | 24 | 24 | 24 | 24 | Health Canada |
| Hours per day (outdoors) | 4 | Ho(4) | 24 | 24 | 24 | 24 | 24 | 24 | Health Canada |
| Days per week | 4 | D(4) | 7 | 7 | 7 | 7 | 7 | 7 | Health Canada |
| Weeks per year | 4 | W(4) | 52 | 52 | 52 | 52 | 52 | 52 | Health Canada |
| Dermal exposure events per day | 4 | SE(4) | 1 | 1 | 1 | 1 | 1 | 1 | Health Canada |
| Water contact events per day | 4 | WE(4) | 1 | 1 | 1 | 1 | 1 | 1 | Health Canada |
| Duration of water contact event (h) | 4 | WEd(4) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | Health Canada |
| Days/year of contaminated food ingestion | 4 | Di(4) | 365 | 365 | 365 | 365 | 365 | 365 | Assumed |
| Exposure During Life Stage | 4 | ExD(4) | 80 | 80 | 80 | 80 | 80 | 80 | Health Canada |
| Years for carcinogen amortization | 4 | YoA(4) | 80 | 80 | 80 | 80 | 80 | 80 | Health Canada |

| Study Area | | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project |
| Project Phase | | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure | Baseline | Site Preparation and Construction | Operations | Closure | Post-closure | Site Preparation and Construction | Operations | Closure | Post-closure |
| **AIR INHALATION** | — | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air | media_Air |
| **SOIL INGESTION** | — | media_Soil | **media_Waste Rock** | **media_Waste Rock** | **media_Waste Rock** | media_Soil | **media_Waste Rock** | **media_Waste Rock** | **media_Waste Rock** | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil |
| **SOIL DERMAL** | — | media_Soil | **media_Waste Rock** | **media_Waste Rock** | **media_Waste Rock** | media_Soil | **media_Waste Rock** | **media_Waste Rock** | **media_Waste Rock** | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil | media_Soil |
| **WATER INGESTION** | — | media_Water (wet) | media_Water (wet) | **Media_Water (supernatant)** | media_Water (wet) | **Media_Water (pit lake wet)** | media_Water (wet) | **Media_Water (supernatant)** | media_Water (wet) | **Media_Water (pit lake wet)** | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) |
| **WATER DERMAL** | — | media_Water (wet) | media_Water (wet) | **Media_Water (supernatant)** | media_Water (wet) | **Media_Water (pit lake wet)** | media_Water (wet) | **Media_Water (supernatant)** | media_Water (wet) | **Media_Water (pit lake wet)** | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) | media_Water (wet) |

**TABLE IV-22: CHEMICAL CHARACTERISTICS**

| Parameter | Screening Results | — | Molecular Weight | log Kow | Diffusivity in Air | Fraction Volatile | Diffusivity in Water | Henry's Law Constant | Henry's Law Constant | Water Solubility | Vapor Pressure | Vapor Pressure | Soil Loss coefficient | Soil-Water partition coefficient | Suspended Sediment-Surface Water Partition Coefficient | Bottom Sediment-Pore Water Partition Coefficient | Organic carbon partition coefficient | Relatiive Absorption Fator (dermal) | Relatiive Absorption Fator (oral) | Relatiive Absorption Fator (inhalation) | Permeability Coefficient for water in skin | Permeability constant | Fat Transfert Coefficient | Beef Transfer Coefficient | Small Mammal Transfer Coefficient | Bird Transfer Coefficient | Fish Bioconcentration Factor | Aquatic Plants Concentration Factor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Symbol | MW | — | Da | Fv | Dw | H | H | S | Vp | Vp | $K_{sg}$ | $K_{ds}$ | $Kd_{sw}$ | $Kd_{ss}$ | Koc | RAFd | RAFo | RAFi | Kp | $K_p$ | $Ba_{fat}$ | $Ba_{beef}$ | $Ba_{smam}$ | $Ba_{poult}$ | BCF | — |
| | | Units | g/mol | unitless | $cm^2/sec$ | — | — | unitless | $atm\text{-}m^3/mol$ | mg/L | mm Hg | atm | 1/yr | $cm^3/g$ | L/kg | $cm^3/g/kg$ | L/kg | — | — | — | cm/hr | cm/h | — | day/kg | day/kg | day/kg | L/kg (FW) | — |
| Alternative Inorganic | | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | — | — | 0.007 | 0.007 | 0.465 | — | — |
| Alternative Organic | | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | — | — | — | — | — | — | — |
| Aluminum | Yes | Inorganic | 2.70E+01 | 3.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | 0.00E+00 | 0.00E+00 | 9.50E+04 | 0.00E+00 | — | 0.00E+00 | 9.90E+00 | 9.90E+00 | 9.90E+00 | 0.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.50E-03 | 1.50E-03 | — | 5.00E+02 | 0.00E+00 |
| Antimony | Yes | Inorganic | 1.25E+02 | 7.30E-01 | 7.72E-02 | 1.00E+00 | 9.57E-06 | — | 2.50E-02 | 2.30E+04 | — | 9.00E-01 | 0.00E+00 | 4.50E+01 | 4.50E+01 | 4.50E+01 | — | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 1.00E-03 | 1.00E-03 | 0.2700 | 4.00E+01 | — |
| Arsenic | Yes | Inorganic | 7.80E+01 | 6.80E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 7.70E-01 | 3.47E+04 | — | 3.30E-12 | 0.00E+00 | 2.90E+01 | 2.90E+01 | 2.90E+01 | — | 3.00E-02 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 2.00E-03 | 2.00E-03 | 0.6600 | 1.14E+02 | — |
| Barium | No | Inorganic | 1.39E+02 | 2.30E-01 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 0.00E+00 | — | — | — | 0.00E+00 | 4.10E+01 | 4.10E+01 | 4.10E+01 | ND | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.50E-04 | 1.50E-04 | 0.0190 | 6.33E+00 | 0.00E+00 |
| Beryllium | No | Inorganic | — | -5.70E-01 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 1.50E-02 | 1.49E+05 | — | 5.58E-12 | 0.00E+00 | 7.90E+02 | 7.90E+02 | 7.90E+02 | — | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 1.00E-03 | 1.00E-03 | — | 6.20E+01 | — |
| Bismuth | No | Inorganic | 2.09E+02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | — | — | — | — | — |
| Boron | No | Inorganic | 1.08E+01 | 2.30E-01 | — | — | — | — | — | — | — | — | — | 3.00E+00 | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 8.00E-04 | 8.00E-04 | — | — | 0.00E+00 |
| Cadmium | Yes | Inorganic | 1.12E+02 | -7.00E-02 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 3.10E-02 | 1.23E+05 | — | — | 0.00E+00 | 7.50E+01 | 7.50E+01 | 7.50E+01 | — | 1.00E-02 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.20E-04 | 1.20E-04 | 0.1063 | 9.07E+02 | #REF! |
| Chromium | No | Inorganic | 5.20E+01 | 2.30E-01 | 1.27E-01 | 9.00E-03 | 1.41E-05 | — | 0.00E+00 | — | — | — | 0.00E+00 | 1.90E+01 | 1.90E+01 | 1.90E+01 | ND | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 5.50E-03 | 5.50E-03 | 0.0200 | 1.90E+01 | 0.00E+00 |
| Cobalt | Yes | Inorganic | 5.90E+01 | 2.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 0.00E+00 | — | — | — | 0.00E+00 | 4.50E+01 | 4.50E+01 | 4.50E+01 | 0.00E+00 | 1.00E-02 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 4.00E-04 | — | 2.00E-02 | 2.00E-02 | 0.0400 | 3.00E+02 | #REF! |
| Copper | Yes | Inorganic | 6.40E+01 | -5.70E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 2.50E-02 | — | — | — | 0.00E+00 | 4.30E+02 | 4.30E+02 | 4.30E+02 | 0.00E+00 | 6.00E-02 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.00E-02 | 1.00E-02 | 1.4900 | 2.00E+02 | 0.00E+00 |
| Cyanide | Yes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | — | — | — | — | — |
| Lead | Yes | Inorganic | 2.09E+02 | 7.30E-01 | 7.72E-02 | 7.00E-03 | 9.57E-06 | — | 2.50E-02 | 9.58E+03 | — | 3.97E-12 | 0.00E+00 | 9.00E+02 | 9.00E+02 | 9.00E+02 | — | 6.00E-03 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-04 | — | 3.00E-04 | 3.00E-04 | 0.0700 | 9.00E-02 | — |
| Lithium | No | Inorganic | 6.94E+00 | -7.70E-01 | — | — | — | — | — | — | — | — | — | 3.00E+02 | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.00E-02 | 1.00E-02 | — | — | #REF! |
| Manganese | No | Inorganic | 5.50E+01 | 2.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | 1.00E+00 | 2.45E-02 | 1.10E+03 | 4.24E-09 | — | 0.00E+00 | 6.50E+01 | 6.50E+01 | 6.50E+01 | 0.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 4.00E-04 | 4.00E-04 | 0.0600 | 4.00E+02 | 0.00E+00 |
| Mercury | Yes | Inorganic | 2.01E+02 | 6.20E-01 | 1.09E-02 | 1.00E+00 | 3.01E-05 | — | 7.10E-03 | 6.00E-02 | — | 2.63E-06 | 0.00E+00 | 1.00E+03 | — | 3.00E+03 | ND | 1.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.00E-02 | 1.00E-02 | — | 3.16E+00 | 0.00E+00 |
| Methyl-Mercury | Yes | Organic | 2.16E+02 | 8.00E-02 | 5.28E-02 | 0.00E+00 | 6.11E-06 | — | 4.70E-07 | — | — | — | 0.00E+00 | 7.00E+03 | 1.00E+05 | 3.00E+03 | — | 6.00E-02 | 1.00E+00 | 1.00E+00 | 2.46E-03 | 4.67E-01 | — | 7.80E-04 | 7.80E-04 | 0.0036 | 1.00E+03 | 0.00E+00 |
| Molybdenum | No | Inorganic | 9.59E+01 | 2.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 2.45E-02 | 7.66E+04 | 4.24E-09 | — | — | 2.00E+01 | — | — | — | 1.00E-02 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 1.00E-03 | 1.00E-03 | 0.0800 | 1.00E+01 | — |
| Nickel | No | Inorganic | 5.87E+01 | -5.70E-01 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 2.50E-02 | 4.22E+05 | — | — | 0.00E+00 | 6.50E+01 | 6.50E+01 | 6.50E+01 | — | 2.00E-01 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 2.00E-04 | — | 6.00E-03 | 6.00E-03 | 0.0200 | 7.80E+01 | #REF! |
| Rubidium | No | Inorganic | 8.65E+01 | 2.30E-01 | — | — | — | — | 2.45E-02 | 8.13E+04 | 4.24E-09 | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 9.11E-05 | 9.11E-05 | 1.2600 | — | 0.00E+00 |
| Selenium | No | Inorganic | 7.90E+01 | 2.40E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 9.70E-03 | — | — | — | 0.00E+00 | 5.00E+00 | 5.00E+00 | 5.00E+00 | ND | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 2.27E-03 | 2.27E-03 | 1.1263 | 1.29E+02 | 0.00E+00 |
| Silver | Yes | Inorganic | 1.08E+02 | 2.30E-01 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 0.00E+00 | — | — | — | 0.00E+00 | 8.30E+00 | 8.30E+00 | 8.30E+00 | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 3.00E-03 | 3.00E-03 | — | — | — |
| Strontium | No | Inorganic | 8.80E+01 | 2.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | 0.00E+00 | 0.00E+00 | — | — | — | 0.00E+00 | 3.50E+01 | 3.50E+01 | 3.50E+01 | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 9.11E-05 | 9.11E-05 | 0.0200 | — | 0.00E+00 |
| Sulfur | — | Inorganic | 3.21E+01 | 2.30E-01 | — | — | — | — | 8.69E-03 | — | — | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 9.11E-05 | 9.11E-05 | — | — | 0.00E+00 |
| Thallium | Yes | Inorganic | 2.05E+02 | 2.30E-01 | 7.72E-02 | 9.00E-03 | 9.57E-06 | — | 0.00E+00 | 2.65E+04 | — | — | 0.00E+00 | 7.10E+01 | 7.10E+01 | 7.10E+01 | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 4.00E-02 | 4.00E-02 | 0.2700 | 1.00E+04 | 0.00E+00 |
| Titanium | No | Inorganic | 4.79E+01 | 2.30E-01 | — | — | — | — | — | — | — | — | — | 1.00E+03 | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 3.00E-02 | 3.00E-02 | — | — | 0.00E+00 |
| Uranium | Yes | Inorganic | 2.40E+02 | 2.30E-01 | — | — | — | — | — | — | — | — | — | 4.00E-01 | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 1.00E-03 | — | 9.11E-05 | 9.11E-05 | 0.0200 | — | 0.00E+00 |
| Vanadium | No | Inorganic | 5.10E+01 | 2.30E-01 | 7.72E-02 | 0.00E+00 | 9.57E-06 | — | 0.00E+00 | — | — | — | 0.00E+00 | 1.00E+03 | 1.00E+03 | 1.00E+03 | 0.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 2.50E-03 | 2.50E-03 | 0.0300 | 1.00E-02 | 0.00E+00 |
| Zinc | Yes | Inorganic | 6.54E+01 | -4.70E-01 | 7.72E-02 | 8.00E-03 | 9.57E-06 | — | 2.50E-02 | 3.44E+05 | — | 5.09E-12 | 0.00E+00 | 6.20E+01 | 6.20E+01 | 6.20E+01 | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | 6.00E-04 | — | 9.00E-05 | 9.00E-05 | 31.3300 | 2.06E+03 | 0.00E+00 |
| Silicon | — | Inorganic | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | — | — | — | — | — |
| Zirconium | No | Inorganic | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | — | — | — | — | — |
| Iron | No | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E-02 | — | — | 1.40E-02 | 1.40E-02 | — | — | — |

**TABLE IV-22: CHEMICAL CHARACTERISTICS**

| Parameter | Screening Results | Plant-Soil BCF for below-ground produce | Plant-Soil BCF for above-ground produce | Plant-Soil BCF for above-ground forage | Water to Macrophytes | Soil to Berries | Soil to Soil Invertebrate | Water to Invertebrate | Water to Fish |
|---|---|---|---|---|---|---|---|---|---|
| | | $Br_{bg}$ | $Br_{ag}$ | $Br_{fs}$ | BAF | BAF | BAF | — | — |
| | | unitless | unitless | unitless | unitless | unitless | unitless | L/kg | L/kg |
| Alternative Inorganic | | 0.0605 | 0.0322 | 1 | 1600 | 0.11 | 2.045 | 705 | 182.5 |
| Alternative Organic | | — | — | — | — | — | — | — | — |
| Aluminum | Yes | 6.50E-04 | 1.10E-03 | 1.00E+00 | — | — | 0.053 | 3.40E+03 | 6.60E+01 |
| Antimony | Yes | 3.00E-02 | 3.19E-02 | 2.00E-01 | 170 | 0.018 | 1 | — | 9.10E+00 |
| Arsenic | Yes | 8.00E-03 | 6.33E-03 | 3.60E-02 | 36 | 0.011 | 0.258 | 1.50E+03 | 1.40E+01 |
| Barium | No | 1.50E-02 | 3.22E-02 | 1.50E-01 | — | — | — | 1.40E+02 | 4.70E+01 |
| Beryllium | No | 1.50E-03 | 2.58E-03 | 1.00E-02 | — | — | — | — | — |
| Bismuth | No | — | — | — | — | — | — | — | — |
| Boron | No | — | 4.00E+00 | — | — | — | — | — | — |
| Cadmium | Yes | 6.40E-02 | 1.25E-01 | 1.25E-01 | 19000 | 0.04 | 17.105 | 1.00E+02 | 1.40E+02 |
| Chromium | No | 4.50E-03 | 4.88E-03 | 7.50E-03 | 63 | 0.0015 | 1.099 | 3.00E+02 | 4.00E-01 |
| Cobalt | Yes | 7.00E-03 | 8.60E-03 | 2.00E-02 | 24000 | 0.004 | 0.122 | 2.20E+01 | 9.60E+01 |
| Copper | Yes | 2.50E-01 | 2.70E-01 | 4.00E-01 | 4000 | 0.14 | 0.754 | 4.20E+01 | 1.24E+02 |
| Cyanide | Yes | — | — | — | — | — | — | — | — |
| Lead | Yes | 9.00E-03 | 1.36E-02 | 4.50E-02 | 3400 | 0.0011 | 3.342 | 2.20E+01 | 1.80E+01 |
| Lithium | No | — | 2.50E-02 | — | — | — | — | — | — |
| Manganese | No | 5.00E-02 | 7.50E-02 | 2.50E-01 | 94000 | 0.45 | 0.064 | 2.10E+01 | 1.60E+02 |
| Mercury | Yes | 1.00E-01 | — | — | — | — | 5.231 | 7.50E+02 | 4.50E+03 |
| Methyl-Mercury | Yes | 9.90E-02 | 2.94E-02 | 0.00E+00 | — | — | 8.5 | — | 4.50E+03 |
| Molybdenum | No | — | — | 5.10E-01 | 1000 | 0.11 | — | 4.50E-01 | 9.00E+00 |
| Nickel | No | 8.00E-03 | 9.31E-03 | 3.20E-02 | 4400 | 0.038 | 1.656 | — | 9.60E+01 |
| Rubidium | No | — | — | 6.20E-01 | 89000 | 1.2 | — | 2.00E+03 | 5.10E+04 |
| Selenium | No | 2.20E-02 | 1.95E-02 | 1.60E-02 | 11 | — | 1.798 | 5.70E+02 | 1.10E+01 |
| Silver | Yes | — | — | 1.80E-04 | — | — | 2.045 | — | — |
| Strontium | No | — | 0.00E+00 | 7.60E-01 | 2000 | 0.097 | — | 2.70E+02 | 1.20E+01 |
| Sulfur | — | — | — | — | — | — | — | — | — |
| Thallium | Yes | 4.00E-04 | 8.58E-04 | 4.00E-03 | — | 0.013 | — | — | 2.90E+03 |
| Titanium | No | — | 5.50E-03 | — | — | — | — | — | 3.70E+02 |
| Uranium | Yes | — | — | 2.00E-02 | 1600 | 0.0013 | — | 1.70E+02 | 2.30E+01 |
| Vanadium | No | 3.00E-03 | 3.30E-03 | 5.50E-03 | 160 | 0.00047 | 0.039 | 3.90E+02 | 2.50E+00 |
| Zinc | Yes | 9.00E-01 | 9.70E-02 | 2.50E-01 | 800 | 0.11 | 1.42 | 9.20E+01 | 2.50E+02 |
| Silicon | — | — | — | — | — | — | — | — | — |
| Zirconium | No | — | — | — | — | — | — | — | 9.50E+01 |
| Iron | No | — | — | 1.00E-01 | 1.9 | — | 0.038 | 2.00E+03 | 1.40E+02 |

**TABLE IV-23: HUMAN HEALTH TOXICOLOGICAL REFERENCE VALUES**

| Parameter and Symbol | Parameter | Symbol | TDI - Infant | TDI - Toddler | TDI - Child | TDI - Teen | TDI - Adult | Selected Non-Cancer TRV for Project | Reference of Selected TRV | Selected Cancer TRV for Project | Reference of Selected TRV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| — | — | — | — | — | — | — | — | RFD | — | OSF | — |
| ‡ | ‡ | ‡ | mg/kg-d | mg/kg-d | mg/kg-d | mg/kg-d | mg/kg-d | mg/kg-d | ‡ | $(mg/kg-d)^{-1}$ | ‡ |
| Aluminum (Al) | Aluminum | Al | ‡ | ‡ | ‡ | ‡ | ‡ | 1.00000 | RAIS, TCEQ, US EPA IRIS | ‡ | ‡ |
| Antimony (Sb) | Antimony | Sb | ‡ | ‡ | ‡ | ‡ | ‡ | 0.00040 | IRIS 1992 | ‡ | ‡ |
| Arsenic (As) | Arsenic | As | ‡ | ‡ | ‡ | ‡ | ‡ | 0.00030 | IRIS 1993, CalEPA, ChREL 2000; ATSDR 2005 | 1.80000 | Health Canada |
| Cadmium (Cd) | Cadmium | Cd | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.00100 | Health Canada | ‡ | ‡ |
| Cobalt (Co) | Cobalt | Co | ‡ | ‡ | ‡ | ‡ | ‡ | 0.00100 | Modified from ATSDR 2004 | ‡ | ‡ |
| Copper (Cu) | Copper | Cu | 0.09 | 0.09 | 0.1 | 0.1 | 0.1 | 0.09100 | Health Canada | ‡ | ‡ |
| Cyanide (CN-) | Cyanide | CN- | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02000 | Health Canada | ‡ | ‡ |
| Lead (Pb) | Lead | Pb | 0.0036 | 0.0036 | 0.0036 | 0.0036 | 0.0036 | 0.00050 | JECFA 2011, EFSA 2013 | ‡ | ‡ |
| Mercury (Hg) | Mercury | Hg | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.00300 | Health Canada | ‡ | ‡ |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.00200 | Health Canada | ‡ | ‡ |
| Thallium (Tl) | Thallium | Tl | ‡ | ‡ | ‡ | ‡ | ‡ | 0.000014 | CalEPA DW 1999 | ‡ | ‡ |
| Uranium (U) | Uranium | U | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.00600 | Health Canada | ‡ | ‡ |
| Zinc (Zn) | Zinc | Zn | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.04800 | Health Canada | ‡ | ‡ |

**TABLE IV-24: ECOLOGICAL RECEPTOR (INCL COUNTRY FOODS) RECEPTOR CHARACTERISTICS**

| Ecological Receptors | Description | Body Weight | Foraging Range | Water Igestion Rate | Food ingestion rate | Soil ingestion rate | Soil Ingestion Rate | Fraction of Diet: Plant_1 | Fraction of Diet: Plant_2 | Fraction of Diet: Plant_3 | Fraction of Diet: Invertebrate_1 | Fraction of Diet: Meat_3 | Fraction of Diet: Meat_4 | Fraction of Diet: Fish | Fraction of Diet: Water | Fraction of Diet: Soil | Ingestion Rates: Plant_1 | Ingestion Rates: Plant_2 | Ingestion Rates: Plant_3 | Ingestion Rates: Invertebrate_1 | Ingestion Rates: Meat_3 | Ingestion Rates: Meat_4 | Ingestion Rates: Fish_2 | Ingestion Rates: Water | Ingestion Rates: Soil | Wet Ingestion Rates: Plant_1 | Wet Ingestion Rates: Plant_2 | Wet Ingestion Rates: Plant_3 | Wet Ingestion Rates: Invertebrate_1 | Wet Ingestion Rates: Meat_3 | Wet Ingestion Rates: Meat_4 | Wet Ingestion Rates: Fish_2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Wet:Dry Conversion Rates | | |
| | | — | — | — | — | — | forage | berries | macrophytes | soil invertebrate | Ruffed Grouse | Deer Mouse | fish | — | — | forage | berries | macrophytes | soil invertebrate | Ruffed Grouse | Deer Mouse | fish | — | — | 0.2705 | 0.165875 | 0.1462083 | 0.1 | 0.32 | 0.32 | 0.25 |
| | | kg | ha | L/kg wet BW/day | kg dry food/kg wet BW/day | % of dry food ingestion rate | kg dry food/kg wet BW/day | — | — | — | — | — | — | — | — | — | kg/d | kg/d | kg/d | kg/d | kg/d | kg/d | kg/d | L/d | kg/day | kg/d | kg/d | kg/d | kg/d | kg/d | kg/d | kg/d |
| Eco_Rec_1 | Meadow Vole | 0.0349 | 0.0069 | 0.21 | 0.07 | 0.024 | 0.00168 | 30% | 70% | — | — | — | — | — | 100% | 100% | 0.0007329 | 0.0017101 | — | — | — | — | — | 0.007329 | 0.000058632 | 0.0007329 | 0.0017101 | — | — | — | — | — |
| Eco_Rec_2 | Moose | 400 | 460 | 0.05 | 0.02 | 0.02 | 0.0004 | 80% | — | 20% | — | — | — | — | 100% | 100% | 6.4 | — | 1.6 | — | — | — | — | 20 | 0.16 | 23.65988909 | — | 10.94329118 | — | — | — | — |
| Eco_Rec_3 | Common Shrew | 0.0041 | 0.6 | 0.17 | 0.34 | 0.02 | 0.0068 | 3% | — | — | 95% | — | 3% | — | 100% | 100% | 0.00003485 | — | — | 0.0013243 | — | 0.00003485 | — | 0.000697 | 0.00002788 | 0.000128835 | — | — | — | 0.013243 | — | 0.000108906 | — |
| Eco_Rec_4 | Little Brown Myotis | 0.0075 | — | 0.16 | 0.33 | 0.02 | 0.006666667 | — | — | — | 100% | — | — | — | — | — | — | — | — | 0.0025 | — | — | — | | | — | — | — | 0.025 | — | — | — |
| Eco_Rec_5 | Red Fox | 3.8 | 280 | 0.09 | 0.02 | 0.028 | 0.00056 | 8% | 8% | — | 25% | 20% | 40% | — | 100% | 100% | 0.0057 | 0.0057 | — | 0.019 | 0.0152 | 0.0304 | — | 0.342 | 0.002128 | 0.0057 | 0.0057 | — | — | 0.019 | 0.0152 | 0.0304 | — |
| Eco_Rec_6 | Deer Mouse | 0.0217 | 0.012 | 0.19 | 0.04 | 0.02 | 0.0008 | 15% | 35% | — | 50% | — | — | — | 100% | 100% | 0.0001302 | 0.0003038 | — | 0.000434 | — | — | — | 0.004123 | 0.00001736 | 0.0001302 | 0.0003038 | — | — | 0.000434 | — | — | — |
| Eco_Rec_7 | Short tailed weasel | 0.089 | 1 | 0.13 | 0.11 | 0.02 | 0.0022 | — | — | — | 5% | 25% | 70% | — | 100% | 100% | — | — | — | 0.0004895 | 0.0024475 | 0.006853 | — | 0.01157 | 0.0001958 | — | — | — | — | 0.004895 | 0.007648438 | 0.021415625 | — |
| Eco_Rec_8 | Ruffed Grouse | 0.552 | 1 | 0.07 | 0.06 | 0.02 | 0.0012 | 55% | 30% | — | 15% | — | — | — | 100% | 100% | 0.018216 | 0.009936 | — | 0.004968 | — | — | — | 0.03962335 | 0.0006624 | 0.067341959 | 0.059900528 | — | — | 0.04968 | — | — | — |
| Eco_Rec_9 | Mallard Duck | 1.2 | 9.2 | 0.06 | 0.05 | 0.02 | 0.001 | — | 5% | 50% | 45% | — | — | — | 100% | 100% | — | 0.003 | 0.03 | 0.027 | — | — | — | 0.066665854 | 0.0012 | — | 0.018085908 | 0.20518671 | 0.27 | — | — | — |
| Eco_Rec_10 | Barn Swallow | 0.0187 | 80 | 0.22 | 0.26 | 0.02 | 0.0052 | — | 1% | — | 99% | — | — | — | 100% | 100% | — | 0.00004862 | — | 0.00481338 | — | — | — | 0.004101908 | 0.00009724 | — | 0.000293112 | — | 0.0481338 | — | — | — |
| Eco_Rec_11 | Red-tailed Hawk | 1.1 | 20 | 0.06 | 0.03 | 0.02 | 0.0006 | — | — | — | — | 10% | 90% | — | 100% | 100% | — | — | — | — | 0.0033 | 0.0297 | — | 0.062890509 | 0.00066 | — | — | — | — | 0.0033 | 0.0297 | — |
| Eco_Rec_12 | Bald Eagle | 4.7 | 210 | 0.04 | 0.03 | 0.02 | 0.0006 | — | — | — | — | 15% | 20% | 65% | 100% | 100% | — | — | — | — | 0.02115 | 0.0282 | 0.09165 | 0.16640163 | 0.00282 | — | — | — | — | 0.02115 | 0.0282 | 0.09165 |
| Eco_Rec_13 | American Robin | 0.079 | 0.7 | 0.14 | 0.17 | 0.04 | 0.0068 | — | 60% | — | 40% | — | — | — | 100% | 100% | — | 0.008058 | — | 0.005372 | — | — | — | 0.010771152 | 0.0005372 | — | 0.008058 | — | 0.005372 | — | — | — |
| Eco_Rec_14 | Snowshoe Hare | 1.3 | 1.6 | 0.1 | 0.06 | 0.063 | 0.00378 | 90% | 10% | — | — | — | — | — | 100% | 100% | 0.0702 | 0.0078 | — | — | — | — | — | 0.070338655 | 0.004914 | 0.259519409 | 0.047023361 | — | — | — | — | — |

*** Source: Federal Contaminanted Sites Action Plan Gudiance**

**TABLE IV-25: ECOLOGICAL RECEPTOR TOXICOLOGICAL REFERENCE VALUES**

| Parameter and Symbol | Parameter | Symbol | Mammal NOAEL (mg/kg/day) | Mammal LOAEL (mg/kg/day) | Mammal Endpoint Reference | Bird NOAEL (mg/kg/day) | Bird LOAEL (mg/kg/day) | Bird Endpoint Reference |
|---|---|---|---|---|---|---|---|---|
| | | | **NOAELm** | **LOAELm** | | **NOAELb** | **LOAELb** | |
| Aluminum (Al) | Aluminum | Al | 1.93 | 19.3 | Reproduction (Sample et al. 1996) | 109.7 | 109.7 | Reproduction (Sample et al. 1996) |
| Antimony (Sb) | Antimony | Sb | 0.125 | 1.25 | Longevity (Sample et al. 1996) | — | — | NV |
| Arsenic (As) | Arsenic | As | 0.13 | 1.3 | Reproduction (Sample et al. 1996) | 2.46 | 7.4 | Reproduction (Sample et al. 1996) |
| Cobalt (Co) | Cobalt | Co | 7.33 | 8.8 | Body weight loss (US EPA Eco-SSLs, 2005) | 7.61 | 7.8 | Body weight loss (US EPA Eco-SSLs, 2005) |
| Copper (Cu) | Copper | Cu | 11.7 | 15.14 | Reproduction (Sample et al. 1996) | 47 | 62 | Growth/Mortality (Sample et al. 1996) |
| Cyanide (CN-) | Cyanide | CN- | 69 | 69 | Reproduction (Sample et al. 1996) | — | 0.21 | Mortality (CCME 1996) |
| Lead (Pb) | Lead | Pb | 8 | 80 | Reproduction (Sample et al. 1996) | 1.63 | 3.3 | Reproduction (Sample et al. 1996) |
| Mercury (Hg) | Mercury | Hg | 1 | 1 | Reproduction (Sample et al. 1996) | 0.45 | 0.9 | Reproduction (Sample et al. 1996) |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.032 | 0.16 | Reproduction (Sample et al. 1996) | 0.0064 | 0.064 | Reproduction (Sample et al. 1996) |
| Silver (Ag) | Silver | Ag | 6.02 | 60.2 | Body weight loss (US EPA Eco-SSLs, 2005) | 2.02 | 20.2 | Body weight loss (US EPA Eco-SSLs, 2005) |
| Thallium (Tl) | Thallium | Tl | 0.0074 | 0.074 | Reproduction (Sample et al. 1996) | — | — | NV |
| Zinc (Zn) | Zinc | Zn | 160 | 320 | Reproduction (Sample et al. 1996) | 14.5 | 131 | Reproduction (Sample et al. 1996) |

# Appendix V

# Model Outputs (HHRA)

# (to be provided electronically once final)

# APPENDIX V-Human Health Risk Assessment Outputs

Appendix V Ito the HHERA contains all of the Goliath Gold Project HHERA Model Outputs for the Human Health Risk Assessment (HHRA). Appendix V is organized by the model outputs related to the calculated exposure and potential risk for the non-cancer endpoint (i.e. Hazard Quotient), and the calculated exposure and potential risk for the carcinogenic endpoint (i.e. Incremental Lifetime Cancer Risk).

To calculate all possible operable exposure pathway and receptor combinations for all possible assessment scenarios and Project phases, the Goliath Gold Project HHERA Model was run 81 times for the non-cancer endpoint, and 54 times for the carcinogenic endpoint. The following two tables describe the index for the Non-Cancer Model and the Cancer Model, respectively.

**Human Health Risk Assessment: Index of Non-Cancer Model Outputs**

| | Model_1 | Model_2 | Model_3 | Model_4 | Model_5 | Model_6 | Model_7 | Model_8 | Model_9 | Model_10 | Model_11 | Model_12 | Model_13 | Model_14 | Model_15 | Model_16 | Model_17 | Model_18 | Model_19 | Model_20 | Model_21 | Model_22 | Model_23 | Model_24 | Model_25 | Model_26 | Model_27 | Model_28 | Model_29 | Model_30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only | Project Only | Project Only |
| **Project Phase** | Baseline | Baseline | Baseline | Baseline | Preparation and Construc | Preparation and Construc | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Preparation and Construc | Preparation and Construc | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Preparation and Construc | Preparation and Construc | Operations | Operations |
| **Receptor** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Exposure Scenario** | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Worker Exposure Scenario | Exposure Scenario for Lead | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Worker Exposure Scenario | Exposure Scenario for Lead | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| **Exposure Group** | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous |
| **Secondary Study Area for Country Foods** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Fraction of Country foods from Secondary Area** | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **Tertiary Study Area for Country Foods** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Fraction of Country foods from Tertiary Area** | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| **Primary Study Area for Country Foods** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Fraction of Country foods from Primary Area** | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

**Human Health Risk Assessment: Index of Non-Cancer Model Outputs**

| | Model_31 | Model_32 | Model_33 | Model_34 | Model_35 | Model_36 | Model_37 | Model_38 | Model_39 | Model_40 | Model_41 | Model_42 | Model_43 | Model_44 | Model_45 | Model_46 | Model_47 | Model_48 | Model_49 | Model_50 | Model_51 | Model_52 | Model_53 | Model_54 | Model_55 | Model_56 | Model_57 | Model_58 | Model_59 | Model_60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project |
| **Project Phase** | Closure | Closure | Post-closure | Post-closure | Preparation and Construc | Preparation and Construc | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Preparation and Construc | Preparation and Construc | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Preparation and Construc | Preparation and Construc | Operations | Operations | Closure | Closure | Post-closure | Post-closure |
| **Receptor** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Exposure Scenario** | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| **Exposure Group** | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous |
| **Secondary Study Area for Country Foods** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Fraction of Country foods from Secondary Area** | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **Tertiary Study Area for Country Foods** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Fraction of Country foods from Tertiary Area** | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| **Primary Study Area for Country Foods** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Fraction of Country foods from Primary Area** | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

**Human Health Risk Assessment:**
**Index of Non-Cancer Model Outputs**

| | Model_61 | Model_62 | Model_63 | Model_64 | Model_65 | Model_66 | Model_67 | Model_68 | Model_69 | Model_70 | Model_71 | Model_72 | Model_73 | Model_74 | Model_75 | Model_76 | Model_77 | Model_78 | Model_79 | Model_80 | Model_81 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Base | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Project Phase** | Post-closure | Post-closure | Baseline | Preparation and Construc | Operations | Closure | Post-closure | Preparation and Construc | Operations | Closure | Post-closure | Baseline | Preparation and Construc | Operations | Closure | Post-closure | Preparation and Construc | Operations | Closure | Post-closure | Post-closure |
| **Receptor** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Exposure Scenario** | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead | Exposure Scenario for Lead |
| **Exposure Group** | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous |
| **Secondary Study Area for Country Foods** | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Fraction of Country foods from Secondary Area** | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **Tertiary Study Area for Country Foods** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Fraction of Country foods from Tertiary Area** | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| **Primary Study Area for Country Foods** | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Fraction of Country foods from Primary Area** | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

**Human Health Risk Assessment:**
**Index of Cancer Model Outputs**

| | Cancer_1 | Cancer_2 | Cancer_3 | Cancer_4 | Cancer_5 | Cancer_6 | Cancer_7 | Cancer_8 | Cancer_9 | Cancer_10 | Cancer_11 | Cancer_12 | Cancer_13 | Cancer_14 | Cancer_15 | Cancer_16 | Cancer_17 | Cancer_18 | Cancer_19 | Cancer_20 | Cancer_21 | Cancer_22 | Cancer_23 | Cancer_24 | Cancer_25 | Cancer_26 | Cancer_27 | Cancer_28 | Cancer_29 | Cancer_30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Project Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Receptor** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Exposure Scenario** | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| **Exposure Group** | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous |
| **Secondary Study Area for Country Foods** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Fraction of Country foods from Secondary Area** | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **Tertiary Study Area for Country Foods** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Fraction of Country foods from Tertiary Area** | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| **Offset** | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| **Primary Study Area for Country Foods** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Fraction of Country foods from Primary Area** | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

**Human Health Risk Assessment:**
**Index of Cancer Model Outputs**

| | Cancer_31 | Cancer_32 | Cancer_33 | Cancer_34 | Cancer_35 | Cancer_36 | Cancer_37 | Cancer_38 | Cancer_39 | Cancer_40 | Cancer_41 | Cancer_42 | Cancer_43 | Cancer_44 | Cancer_45 | Cancer_46 | Cancer_47 | Cancer_48 | Cancer_49 | Cancer_50 | Cancer_51 | Cancer_52 | Cancer_53 | Cancer_54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| Scenario | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| Project Phase | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Receptor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Residential Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Exposure Group | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous | Indigenous |
| Secondary Study Area for Country Foods | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| Fraction of Country foods from Secondary Area | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| Tertiary Study Area for Country Foods | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Fraction of Country foods from Tertiary Area | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| Offset | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Primary Study Area for Country Foods | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| Fraction of Country foods from Primary Area | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

# Non-Cancer Model Outputs

| | |
|---|---|
| Model_1 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.55E-02 | 5.96E-02 | 4.80E-02 | 3.02E-02 | 3.39E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42272E-05 | 1.06E-04 | 7.51E-05 | 5.12E-05 | 6.05E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.00010321 | 1.43E-04 | 9.43E-05 | 6.40E-05 | 7.66E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.30892E-06 | 6.30E-05 | 4.71E-05 | 3.18E-05 | 3.38E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.87873E-05 | 2.01E-03 | 1.47E-03 | 1.04E-03 | 1.17E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000177174 | 3.27E-03 | 2.39E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17587E-06 | 1.90E-05 | 2.30E-05 | 1.00E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.52711E-06 | 2.59E-05 | 2.31E-05 | 1.32E-05 | 1.48E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.77976E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.00041242 | 7.78E-04 | 3.84E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000148624 | 8.59E-02 | 6.35E-02 | 4.81E-02 | 6.15E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| Model_1 | Model Simulation |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Infant | Toddler | Child | Teen | Adult | Worker | | | |
| Aluminum (Al) | Aluminum | Al | 0.02551803 | 0.059636679 | 0.048021009 | 0.030183558 | 0.033925595 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210572769 | 0.266048067 | 0.187853387 | 0.12801381 | 0.151174147 | 0 |
| Arsenic (As) | Arsenic | As | 0.34407515 | 0.475283109 | 0.314487329 | 0.2134588 | 0.25538186 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004310291E-05 | 0.062976553 | 0.047122457 | 0.03176006 | 0.033830456 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.098829586 | **2.005457646** | **1.473339835** | **1.037084074** | **1.17224605** | 0 |
| Copper (Cu) | Copper | Cu | 0.001947988 | 0.035902917 | 0.026224907 | 0.018576635 | 0.021357555 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00742452 | 0.020048452 | 0.018568433 | 0.010320818 | 0.011649433 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058672 | 0.00632424 | 0.007673249 | 0.003345324 | 0.003695651 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.201203234 | 0.661412376 | 0.11640187 | 0.108585369 | 0 |
| Silver (Ag) | Silver | Ag | 0.001905508 | 0.005180243 | 0.004628078 | 0.002634193 | 0.002968978 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.98561085** | **13.57387193** | **25.99501188** | **7.461830615** | **7.977595823** | 0 |
| Uranium (U) | Uranium | U | 0.068737034 | 0.129676371 | 0.097410188 | 0.063631214 | 0.069208756 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.02934493 | **1.790387025** | **1.321945975** | **1.002636228** | **1.206605576** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 |
| Infant | Toddler | Child | Teen | Adult | Worker |
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.6974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 |
| Infant | Toddler | Child | Teen | Adult | Worker |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.003759146 | 0.006581818 | 0.001156915 | 0.000737018 | 0.000662594 | 0 |
| 0.029257434 | 0.050762937 | 0.007884071 | 0.004612442 | 0.00398615 | 0 |
| 0.000932491 | 0.001627051 | 0.000238989 | 0.000134677 | 0.000114738 | 0 |
| 0.028336594 | 0.050520521 | 0.007262423 | 0.004092573 | 0.003486655 | 0 |
| 0.000752423 | 0.001379983 | 0.000216113 | 0.000132018 | 0.000113888 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.93265E-05 | 6.88561E-05 | 1.21031E-05 | 7.71036E-06 | 6.86586E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000190622 | 0.000211656 | 8.88148E-05 | 6.76186E-05 | 6.34717E-05 | 0 |
| 0.145034843 | 0.161038961 | 0.067574902 | 0.051447715 | 0.048292584 | 0 |
| 0.000676829 | 0.000751515 | 0.00031535 | 0.000240089 | 0.000225365 | 0 |
| 0.011388568 | 0.012645248 | 0.005306178 | 0.004039824 | 0.003792074 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 |
| Infant | Toddler | Child | Teen | Adult | Worker |
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775603** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.033376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070407047 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743665 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.00742452 | 0.007257702 | 0.004961422 | 0.00350251 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000156091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001714798 | 0.001676269 | 0.001145911 | 0.000808954 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 |
| Infant | Toddler | Child | Teen | Adult | Worker |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40234E-06 | 2.63116E-06 | 2.30529E-06 | 1.36968E-06 | 1.22812E-06 | 0 |
| 4.25447E-05 | 7.99559E-05 | 7.00533E-05 | 4.16343E-05 | 3.73003E-05 | 0 |
| 1.01661E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29856E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87489E-06 | 8.65184E-06 | 5.12964E-06 | 4.60926E-06 | 0 |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Infant** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Child** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Adult** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_2 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.04E-03 | 4.06E-02 | 3.50E-02 | 2.10E-02 | 2.27E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99434E-05 | 4.29E-05 | 3.28E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45315E-05 | 5.91E-05 | 4.43E-05 | 2.88E-05 | 3.40E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03179E-06 | 5.91E-05 | 4.52E-05 | 3.04E-05 | 3.22E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37486E-05 | 1.91E-03 | 1.43E-03 | 1.01E-03 | 1.14E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28305E-05 | 3.09E-03 | 2.32E-03 | 1.64E-03 | 1.89E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.5281E-07 | 1.65E-05 | 2.14E-05 | 8.91E-06 | 9.72E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.692003E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26636E-06 | 1.87E-05 | 1.84E-05 | 9.82E-06 | 1.08E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60266E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76089E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279054 | 8.50E-02 | 6.30E-02 | 4.78E-02 | 6.11E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_2 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006036054 | 0.040639137 | 0.034991944 | 0.02095338 | 0.022663135 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049859699 | 0.107140976 | 0.081366857 | 0.052652343 | 0.05594031 | 0 |
| Arsenic (As) | Arsenic | As | 0.081782144 | 0.199059045 | 0.147803415 | 0.096110588 | 0.113437443 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001252136 | 0.005908725 | 0.045217541 | 0.030436733 | 0.032249286 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023759282 | **1.911308451** | **1.431869545** | **1.009100611** | **1.138503419** | 0 |
| Copper (Cu) | Copper | Cu | 0.000470919 | 0.033977188 | 0.025451654 | 0.018044796 | 0.020742754 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.01452108 | 0.014777602 | 0.00763528 | 0.008372598 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250949 | 0.005513688 | 0.007143676 | 0.002970814 | 0.0032406 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.201086916 | 0.661334062 | 0.116347505 | 0.108517211 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453297 | 0.003744753 | 0.003685813 | 0.001963152 | 0.002164485 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471630842 | **12.06278506** | **25.00451605** | **6.757461638** | **7.129018184** | 0 |
| Uranium (U) | Uranium | U | 0.016268223 | 0.07844339 | 0.062423088 | 0.038633837 | 0.039001088 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005814839 | **1.771559141** | **1.311506382** | 0.995656244 | **1.272268809** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.0974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0295 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000939787 | 0.001645455 | 0.000289229 | 0.000184255 | 0.000164074 | 0 |
| 0.007314358 | 0.013940734 | 0.001971018 | 0.001153111 | 0.000996538 | 0 |
| 0.000233123 | 0.000456763 | 5.9747E-05 | 3.3958E-05 | 2.86844E-05 | 0 |
| 0.001084148 | 0.013880113 | 0.001815606 | 0.001023143 | 0.000871664 | 0 |
| 0.000188106 | 0.000344996 | 5.40283E-05 | 3.30046E-05 | 2.8972E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.83163E-06 | 1.7214E-05 | 3.02578E-06 | 1.92759E-06 | 1.71646E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.76554E-05 | 5.2914E-05 | 2.2203?E-05 | 1.69046E-05 | 1.58679E-05 | 0 |
| 0.036258711 | 0.04025974 | 0.016893726 | 0.012861929 | 0.012073146 | 0 |
| 0.000169207 | 0.000187879 | 7.88374E-05 | 6.00223E-05 | 5.63413E-05 | 0 |
| 0.00294714 | 0.003161312 | 0.001326545 | 0.001009956 | 0.000948019 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.000036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311645 | 0 |
| 0.000798662 | 0.000788897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.019664473 | 0.016418981 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.000405562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.015098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379985 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.7632?E-07 | 3.41696E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9986E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.27796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19698E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84815E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Infant** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_3 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.0014003 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.80404E-06 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.92987E-06 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.93363E-07 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.62668E-05 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.25286E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.1484E-06 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.67023E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.68236E-08 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.45353E-06 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.6386E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08579E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.001170394 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Model_3 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.0014003 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.014512386 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.033120046 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.000594046 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.016287541 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000577732 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.00040742 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 8.90317E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 8.41181E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.000490749 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.402789686 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.005143143 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.024385772 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.003161478 |
| 0 | 0 | 0 | 0 | 0 | 0.015826266 |
| 0 | 0 | 0 | 0 | 0 | 0.000406982 |
| 0 | 0 | 0 | 0 | 0 | 0.01240081 |
| 0 | 0 | 0 | 0 | 0 | 0.000511687 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 3.3074E-05 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.000396607 |
| 0 | 0 | 0 | 0 | 0 | **0.301759263** |
| 0 | 0 | 0 | 0 | 0 | 0.001140821 |
| 0 | 0 | 0 | 0 | 0 | 0.023695016 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.0014003 |
| 0 | 0 | 0 | 0 | 0 | 0.011348624 |
| 0 | 0 | 0 | 0 | 0 | 0.017273286 |
| 0 | 0 | 0 | 0 | 0 | 0.000185281 |
| 0 | 0 | 0 | 0 | 0 | 0.003865979 |
| 0 | 0 | 0 | 0 | 0 | 6.55508E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.00040742 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 5.59338E-05 |
| 0 | 0 | 0 | 0 | 0 | 8.41181E-06 |
| 0 | 0 | 0 | 0 | 0 | 9.40994E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.100997783 |
| 0 | 0 | 0 | 0 | 0 | 0.003734781 |
| 0 | 0 | 0 | 0 | 0 | 0.000688192 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 2.28484E-06 |
| 0 | 0 | 0 | 0 | 0 | 2.04938E-05 |
| 0 | 0 | 0 | 0 | 0 | 6.82924E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.07527E-05 |
| 0 | 0 | 0 | 0 | 0 | 4.94725E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 2.3903E-08 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 4.29001E-08 |
| 0 | 0 | 0 | 0 | 0 | 3.26406E-05 |
| 0 | 0 | 0 | 0 | 0 | 1.52323E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.56304E-06 |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Infant** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Child** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Adult** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Worker** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_4 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103054 | 3.76E-04 | 2.52E-04 | 1.70E-04 | 1.82E-04 | 2.15813E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fraction of Country food intake | — | — | — | — | — | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 40% | 45% | 45% | 45% | 45% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Intake Rate | 8.3 | 0.00008 | — | 0.6 | — | — | 0.0025 | 0.0025 | 0.0025 | 0.0025 | 0.0025 | 0.01075 | 0.01075 | 0.01075 | 0.0032 | 0.01075 | — | — | — | — | 0.0025 | 0.0025 | 0.0025 | 0.0025 | 0.01075 | 0.01075 | 0.01075 | 0.0032 | 0.01075 | — | — | — | — | 0.0025 | 0.0025 | 0.0025 | 0.0025 | 0.01075 | 0.01075 | 0.01075 | 0.0032 | 0.01075 | — | — | — |
| Body Weight | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| Days per year of country food consumption | — | — | — | — | — | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 |
| Hours per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours outside per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Days per week | 7 | 7 | 7 | 7 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Weeks per year | 52 | 52 | 52 | 52 | 52 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area of Hands (cm²) | — | — | 430 | — | 430 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area, other (cm²) | — | — | 2580 | — | 2580 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface area, total (cm²) | — | — | 6130 | — | 6130 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, hands (g/cm²/event) | — | — | 0.0001 | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, other (g/cm²/event) | — | — | 0.00001 | — | 0.00001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil exposure events per day | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact events per day | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact event duration (h) | — | — | — | — | 0.5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unit Conversion Factor | 1.00E-03 | — | 1.00E-03 | — | 1.00E-03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter and Symbol | Parameter | Symbol | Average Daily Dose via Air Inhalation (mg/kg/d) | Average Daily Dose via Soil Ingestion (mg/kg/d) | Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Average Daily Dose via Water Ingestion (mg/kg/d) | Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_4 | Model Simulation |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15985.43597 | 894042.6682 | 1206292.285 | 4781198.094 | 3809959.704 | 27286.80275 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Infant** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Toddler** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Child** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Teen** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Adult** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| **Location 1** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_5 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.27806751 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.187AE-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.7478E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20837E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000130859 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.43294E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.94889E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.15408E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.04432E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.58387E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.0070013 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_5 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways | Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods | Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact | Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact | Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker |
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.2781334234 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | **0.27806751** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.59123E-05 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.029732592 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.029684918 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.76737E-05 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.091859237 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.091593401 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000265836 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.001213001 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.001208372 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.62883E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.131344585 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.130858892 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000485893 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.00081868 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000816806 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.8736E-06 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.000232003 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00023163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.73751E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004309195 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.004308161 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.03359E-06 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.360403089 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | **0.360308248** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9.48411E-05 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.002640448 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.002635779 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.69754E-07 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.156314877 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.156277053 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.77843E-05 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Toddler** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Worker** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| Model_6 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
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| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000357946 | 1.41E-03 | 6.16E-04 | 4.30E-04 | 4.81E-04 | 0.000225745 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
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| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |
| Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| media_Air | media_Waste Rock | media_Waste Rock | media_Waste Rock | Media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — |
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| 6 | 7 | 8 | g | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Fraction of Country food intake | — | — | — | — | — | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 40% | 45% | 45% | 45% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Intake Rate | 2.2 | 0.00002 | — | 0.3 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Body Weight | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| Days per year of country food consumption | — | — | — | — | — | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 |
| Hours per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours outside per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Days per week | 7 | 7 | 7 | 7 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Weeks per year | 52 | 52 | 52 | 52 | 52 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area of Hands (cm²) | — | — | 320 | — | 320 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area, other (cm²) | — | — | 1460 | — | 1460 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface area, total (cm²) | — | — | 3620 | — | 3620 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, hands (g/cm²/event) | — | — | 0.0001 | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, other (g/cm²/event) | — | — | 0.00001 | — | 0.00001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil exposure events per day | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact events per day | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact event duration (h) | — | — | — | — | 0.5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unit Conversion Factor | 1.00E-03 | — | 1.00E-03 | — | 1.00E-03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter and Symbol | Parameter | Symbol | Average Daily Dose via Air Inhalation (mg/kg/d) | Average Daily Dose via Soil Ingestion (mg/kg/d) | Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Average Daily Dose via Water Ingestion (mg/kg/d) | Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 1.20144E-06 | 0.000353011 | 4.93515E-06 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
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| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project Only | Scenario |
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| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Model_6 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways | Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods | Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact | Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact | Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
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| | | | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker | 1 Infant | 2 Toddler | 3 Child | 4 Teen | 5 Adult | 6 Worker |
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 518.8982304 | 115147693.3 | 156500952.1 | 61551813 3.6 | 486824744.7 | 783.4779434 | 0 | 11514733 2.5003 | 156500511.8444 | 61551614 2.3353 | 486822568.0810 | 0 | 102.7315259 | 138.7960536 | 186.952852 | 709.3555758 | 749.954253 | 78.65902772 | 0 | 0 | 0 | 0 | 0 | 0 | 416.1667045 | 221.9637287 | 253.3401688 | 1281.879338 | 1426.62142 | 704.8189157 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Infant** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Toddler** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
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| **Location 1** | **Tertiary Study Area for Country Foods** |
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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
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| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Teen** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Adult** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| Model_7 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.278515235 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.63737E-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.79757E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.70812E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000139858 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000114827 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.002249872 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.74466E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.65423E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.16533E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.001449462 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.7088E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.007591295 |
| — | — | — | — | — | — | — | — | — |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
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| Operations | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Model_7 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.278518391 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.040938451 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.226604294 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.00570854 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.13988138 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.001261966 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.112493588 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.00158157 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0.001827117 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004330807 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | **103.5330232** |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.004514739 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.158158038 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
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| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
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| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | **0.27806751** |
| 0 | 0 | 0 | 0 | 0 | 0.029684918 |
| 0 | 0 | 0 | 0 | 0 | 0.091593401 |
| 0 | 0 | 0 | 0 | 0 | 0.001226372 |
| 0 | 0 | 0 | 0 | 0 | 0.130858892 |
| 0 | 0 | 0 | 0 | 0 | 0.000816806 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.00023163 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.004308161 |
| 0 | 0 | 0 | 0 | 0 | **0.360308248** |
| 0 | 0 | 0 | 0 | 0 | 0.002635779 |
| 0 | 0 | 0 | 0 | 0 | 0.156277093 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.000447724 |
| 0 | 0 | 0 | 0 | 0 | 0.011249359 |
| 0 | 0 | 0 | 0 | 0 | 0.134992306 |
| 0 | 0 | 0 | 0 | 0 | 0.004499744 |
| 0 | 0 | 0 | 0 | 0 | 0.008999487 |
| 0 | 0 | 0 | 0 | 0 | 0.00044503 |
| 0 | 0 | 0 | 0 | 0 | 0.112493588 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.001349923 |
| 0 | 0 | 0 | 0 | 0 | 0.001827117 |
| 0 | 0 | 0 | 0 | 0 | 2.24987E-05 |
| 0 | 0 | 0 | 0 | 0 | **103.1726911** |
| 0 | 0 | 0 | 0 | 0 | 0.001874893 |
| 0 | 0 | 0 | 0 | 0 | 0.001874893 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 3.15639E-06 |
| 0 | 0 | 0 | 0 | 0 | 4.17445E-06 |
| 0 | 0 | 0 | 0 | 0 | 1.85872E-05 |
| 0 | 0 | 0 | 0 | 0 | 4.24514E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.32004E-05 |
| 0 | 0 | 0 | 0 | 0 | 1.30349E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 1.75672E-08 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1.47182E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.38516E-05 |
| 0 | 0 | 0 | 0 | 0 | 6.71214E-08 |
| 0 | 0 | 0 | 0 | 0 | 3.05205E-06 |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Infant** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| Model_8 | Model Simulation |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.003538946 | 4.55E-03 | 2.74E-03 | 1.91E-03 | 2.32E-03 | 0.000505554 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_8 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 4356.719492 | 3.23697E+19 | 1.02154E+19 | 1.68127E+20 | 1.80256E+20 | 7325.785861 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Child** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Teen** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Adult** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_9 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.27806751 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.187AE-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.7478E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20837E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000130859 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.43294E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.94889E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.15408E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.04432E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.58387E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.0070013 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_9 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways | Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods | Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact | Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact | Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.278068161 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | **0.27806751** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.50678E-07 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.029685389 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.029684918 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.70688E-07 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.091596025 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.091593401 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.62483E-06 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.001258418 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.001205372 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.57128E-08 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.13086349 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.130858892 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.75721E-06 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000816825 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000816806 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.88087E-08 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.000231633 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00023163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.69024E-09 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004308171 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.004308161 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.02046E-08 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.360309185 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | **0.360308248** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9.37098E-07 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.002639785 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.002639779 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.61564E-09 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.156277466 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 | 0 | 0 | 0 | 0 | 0 | 0.156277053 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.73068E-07 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Infant** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Toddler** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Child** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_10 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000357946 | 1.41E-03 | 6.16E-04 | 4.30E-04 | 4.81E-04 | 0.000225745 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_10 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 42256.30665 | 7091579.667 | 9633500.395 | 37917425.93 | 30031558.09 | 71469.85104 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Infant** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Toddler** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Child** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Teen** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Adult** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Model_11 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.23E-02 | 1.92E-02 | 1.33E-02 | 9.23E-03 | 1.04E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 4.66326E-05 | 4.66E-05 | 3.18E-05 | 2.24E-05 | 2.74E-05 | 0 |
| Arsenic (As) | Arsenic | As | 5.89025E-05 | 5.92E-05 | 4.00E-05 | 2.82E-05 | 3.45E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 3.88224E-06 | 4.29E-06 | 2.92E-06 | 2.07E-06 | 2.53E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.93423E-05 | 4.43E-05 | 2.78E-05 | 1.96E-05 | 2.39E-05 | 0 |
| Copper (Cu) | Copper | Cu | 0.000160589 | 2.61E-04 | 1.88E-04 | 1.31E-04 | 1.57E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 8.49858E-05 | 8.32E-05 | 5.69E-05 | 4.02E-05 | 4.93E-05 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.44714E-07 | 9.69E-07 | 6.70E-07 | 4.75E-07 | 5.72E-07 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.53427E-08 | 7.46E-08 | 5.02E-08 | 3.48E-08 | 4.37E-08 | 0 |
| Silver (Ag) | Silver | Ag | 4.28829E-06 | 4.61E-06 | 3.11E-06 | 2.21E-06 | 2.69E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.23891E-05 | 1.23E-05 | 8.41E-06 | 5.95E-06 | 7.29E-06 | 0 |
| Uranium (U) | Uranium | U | 0.000205118 | 2.01E-04 | 1.37E-04 | 9.68E-05 | 1.19E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001274579 | 5.38E-03 | 3.91E-03 | 2.92E-03 | 3.70E-03 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_11 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.012293886 | 0.019176352 | 0.01325602 | 0.009233852 | 0.010395134 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.116581589 | 0.116529152 | 0.079387382 | 0.05601714 | 0.068457585 | 0 |
| Arsenic (As) | Arsenic | As | 0.196341772 | 0.197356434 | 0.133196276 | 0.094032008 | 0.11506542 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.003882242 | 0.004291648 | 0.002917247 | 0.002070118 | 0.002532436 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.039342278 | 0.044292099 | 0.027827632 | 0.01963116 | 0.023875137 | 0 |
| Copper (Cu) | Copper | Cu | 0.001764719 | 0.002870645 | 0.002066087 | 0.001440852 | 0.001728285 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.004249248 | 0.004160826 | 0.002844735 | 0.002008568 | 0.002462628 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000248238 | 0.000322902 | 0.000223381 | 0.0001585 | 0.00019083 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.76714E-05 | 3.72833E-05 | 2.50785E-05 | 1.73911E-05 | 2.18344E-05 | 0 |
| Silver (Ag) | Silver | Ag | 0.000857609 | 0.000921552 | 0.000622129 | 0.000442667 | 0.000538731 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.884933741 | 0.88014534 | 0.600543733 | 0.424762235 | 0.520584815 | 0 |
| Uranium (U) | Uranium | U | 0.034186372 | 0.033428895 | 0.02284699 | 0.016129239 | 0.019770501 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.026553725 | 0.112125511 | 0.081462262 | 0.060804832 | 0.077016324 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0070 | 0.0053 | 0.0036 | 0.0036 | 0 |
| 0 | 0.0022 | 0.0016 | 0.0011 | 0.0012 | 0 |
| 0 | 0.0037 | 0.0027 | 0.0020 | 0.0023 | 0 |
| 0 | 0.0005 | 0.0003 | 0.0003 | 0.0003 | 0 |
| 0 | 0.0034 | 0.0025 | 0.0019 | 0.0022 | 0 |
| 0 | 0.0011 | 0.0009 | 0.0006 | 0.0007 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0142 | 0.0105 | 0.0080 | 0.0104 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0860 | 0.0639 | 0.0484 | 0.0619 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0.0010080386 | 0.001199604 | 0.000503376 | 0.000383242 | 0.000359739 | 0 |
| 0.0000463712 | 0.000811904 | 0.000142712 | 9.09154E-05 | 8.09576E-05 | 0 |
| 0.0001868535 | 0.003561316 | 0.000503518 | 0.000294575 | 0.000254577 | 0 |
| 3.8836E-05 | 7.60923E-05 | 9.95334E-06 | 5.60898E-06 | 4.77855E-06 | 0 |
| 0.002442278 | 0.00478521 | 0.000625935 | 0.000352731 | 0.000300508 | 0 |
| 1.39748E-05 | 2.56305E-05 | 4.01388E-06 | 2.45198E-06 | 2.15239E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.23792E-06 | 3.91833E-06 | 6.88742E-07 | 4.38767E-07 | 3.9071E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.12629E-05 | 4.58161E-05 | 1.92253E-05 | 1.4637E-05 | 1.37394E-05 | 0 |
| 0.006362312 | 0.007064373 | 0.00296434 | 0.002256881 | 0.002118474 | 0 |
| 1.97049E-05 | 2.18793E-05 | 9.18096E-06 | 6.98987E-06 | 6.5612E-06 | 0 |
| 0.000928725 | 0.001031207 | 0.000432713 | 0.000329444 | 0.00030924 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.0112135 | 0.010961548 | 0.007493401 | 0.005289567 | 0.006485083 | 0 |
| 0.116117877 | 0.113508872 | 0.077595562 | 0.054778491 | 0.067154244 | 0 |
| 0.194473238 | 0.190103699 | 0.129956391 | 0.091742553 | 0.112469361 | 0 |
| 0.003843406 | 0.00375705 | 0.002568349 | 0.001813123 | 0.00222275 | 0 |
| 0.0369 | 0.036070909 | 0.024668359 | 0.017407538 | 0.021340311 | 0 |
| 0.001750744 | 0.001711407 | 0.001169932 | 0.000825912 | 0.001012505 | 0 |
| 0.004249248 | 0.004153773 | 0.002839552 | 0.002004578 | 0.00245746 | 0 |
| — | — | — | — | — | — |
| 0.000246 | 0.000240473 | 0.000164389 | 0.00011605 | 0.000142269 | 0 |
| 3.76714E-05 | 3.72776E-05 | 2.50743E-05 | 1.73879E-05 | 2.18302E-05 | 0 |
| 0.000816396 | 0.000798053 | 0.000545555 | 0.000385134 | 0.0004721 45 | 0 |
| **0.878571429** | **0.858831169** | **0.587103778** | **0.414465183** | **0.508102647** | 0 |
| 0.034166667 | 0.03339899 | 0.022831814 | 0.016111809 | 0.019759547 | 0 |
| 0.025625 | 0.025049242 | 0.017123086 | 0.012088568 | 0.014819661 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_12 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.92E-03 | 9.93E-03 | 7.15E-03 | 4.89E-03 | 5.18E-03 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.1033E-05 | 1.18E-05 | 8.00E-06 | 5.58E-06 | 6.86E-06 | 0 |
| Arsenic (As) | Arsenic | As | 1.39404E-05 | 1.50E-05 | 1.01E-05 | 7.04E-06 | 8.71E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 9.18831E-07 | 1.37E-06 | 9.47E-07 | 6.76E-07 | 8.33E-07 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.33892E-06 | 1.32E-05 | 8.52E-06 | 6.02E-06 | 7.36E-06 | 0 |
| Copper (Cu) | Copper | Cu | 3.80031E-05 | 1.41E-04 | 1.06E-04 | 7.33E-05 | 8.68E-05 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 2.01024E-05 | 1.99E-05 | 1.35E-05 | 9.43E-06 | 1.17E-05 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 1.76246E-07 | 4.10E-07 | 2.92E-07 | 2.08E-07 | 2.46E-07 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 1.85642E-08 | 1.84E-08 | 1.24E-08 | 8.54E-09 | 1.08E-08 | 0 |
| Silver (Ag) | Silver | Ag | 1.01713E-06 | 1.40E-06 | 9.54E-07 | 6.82E-07 | 8.41E-07 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.93172E-06 | 3.09E-06 | 2.10E-06 | 1.47E-06 | 1.84E-06 | 0 |
| Uranium (U) | Uranium | U | 4.85204E-05 | 4.79E-05 | 3.24E-05 | 2.26E-05 | 2.81E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00030209 | 4.43E-03 | 3.27E-03 | 2.46E-03 | 3.14E-03 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_12 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.002922546 | 0.009928477 | 0.007153069 | 0.004890363 | 0.005178217 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.027582538 | 0.029473339 | 0.019992569 | 0.013947722 | 0.017147891 | 0 |
| Arsenic (As) | Arsenic | As | 0.046467979 | 0.049904936 | 0.033523967 | 0.02346777 | 0.029043137 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.000918831 | 0.001373258 | 0.000947405 | 0.000675705 | 0.000832553 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.009338923 | 0.013232055 | 0.008517679 | 0.006019438 | 0.00736383 | 0 |
| Copper (Cu) | Copper | Cu | 0.000417616 | 0.001548037 | 0.001169177 | 0.000805748 | 0.000953975 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00100512 | 0.000597366 | 0.000675142 | 0.000471564 | 0.000587209 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 5.87485E-05 | 0.000136822 | 9.72615E-05 | 6.91894E-05 | 8.19646E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 9.28209E-06 | 9.2109E-06 | 6.17802E-06 | 4.27054E-06 | 5.38503E-06 | 0 |
| Silver (Ag) | Silver | Ag | 0.000203427 | 0.000279403 | 0.000190872 | 0.000136389 | 0.000168107 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.209408522 | 0.220772385 | 0.149737108 | 0.105279732 | 0.131235806 | 0 |
| Uranium (U) | Uranium | U | 0.008086735 | 0.007976248 | 0.005395195 | 0.003765503 | 0.004686019 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.006293538 | 0.092274927 | 0.068054045 | 0.051288879 | 0.065474723 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0070 | 0.0053 | 0.0036 | 0.0036 | 0 |
| 0 | 0.0022 | 0.0016 | 0.0011 | 0.0012 | 0 |
| 0 | 0.0037 | 0.0027 | 0.0020 | 0.0023 | 0 |
| 0 | 0.0005 | 0.0003 | 0.0003 | 0.0003 | 0 |
| 0 | 0.0034 | 0.0025 | 0.0019 | 0.0022 | 0 |
| 0 | 0.0011 | 0.0009 | 0.0006 | 0.0007 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0142 | 0.0105 | 0.0080 | 0.0104 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0860 | 0.0639 | 0.0484 | 0.0619 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0.000270097 | 0.000299901 | 0.000125844 | 9.58104E-05 | 8.99347E-05 | 0 |
| 0.000115928 | 0.000202976 | 3.5678E-05 | 2.27288E-05 | 2.02394E-05 | 0 |
| 0.000467134 | 0.000890329 | 0.00012588 | 7.36437E-05 | 6.36442E-05 | 0 |
| 9.70901E-06 | 1.90231E-05 | 2.48833E-06 | 1.40224E-06 | 1.19464E-06 | 0 |
| 0.000610569 | 0.001196302 | 0.000156484 | 8.81828E-05 | 7.51271E-05 | 0 |
| 3.49369E-06 | 6.40762E-06 | 1.00347E-06 | 6.12995E-07 | 5.38098E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 5.5948E-07 | 9.79583E-07 | 1.72186E-07 | 1.09692E-07 | 9.76774E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.03157E-05 | 1.1454E-05 | 4.80632E-06 | 3.65926E-06 | 3.43485E-06 | 0 |
| 0.001590578 | 0.001766093 | 0.000741085 | 0.00056422 | 0.000529618 | 0 |
| 4.92623E-06 | 5.46983E-06 | 2.29524E-06 | 1.74747E-06 | 1.64035E-06 | 0 |
| 0.000232181 | 0.000257802 | 0.000108178 | 8.23609E-05 | 7.731E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.002652545 | 0.002613375 | 0.001767982 | 0.0012339 | 0.001535971 | 0 |
| 0.027466661 | 0.027061988 | 0.018307784 | 0.01277726 | 0.015905269 | 0 |
| 0.046000845 | 0.045323188 | 0.030651721 | 0.021399247 | 0.02663801 | 0 |
| 0.000909122 | 0.00089573 | 0.000605973 | 0.000422917 | 0.000526451 | 0 |
| 0.008728354 | 0.008599773 | 0.005817857 | 0.004060364 | 0.005054385 | 0 |
| 0.000414122 | 0.000408022 | 0.000276032 | 0.000192647 | 0.000239809 | 0 |
| 0.001005512 | 0.000990313 | 0.00066996 | 0.000467574 | 0.000582042 | 0 |
| — | — | — | — | — | — |
| 5.81898E-05 | 5.73318E-05 | 3.87857E-05 | 2.70691E-05 | 3.36955E-05 | 0 |
| 9.282209E-06 | 9.20515E-06 | 6.1738E-06 | 4.26729E-06 | 5.38082E-06 | 0 |
| 0.000193111 | 0.000190266 | 0.000128717 | 8.98337E-05 | 0.000111826 | 0 |
| **0.207817944** | **0.204756494** | 0.138520408 | 0.096675341 | 0.120342493 | 0 |
| 0.008081809 | 0.007962753 | 0.005386905 | 0.003759597 | 0.004679986 | 0 |
| 0.006061357 | 0.005972064 | 0.004040179 | 0.002819697 | 0.003509989 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_13 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00286319 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.70478E-06 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.50474E-06 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.27902E-07 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.09369E-06 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.60737E-06 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.66354E-06 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.6144E-08 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.06026E-09 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.53255E-07 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.60285E-07 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.14953E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000160247 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Model_13 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.00286319 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.000761945 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.011682453 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.000227902 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.003093687 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000105576 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.0002331177 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 1.53813E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 2.03013E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.0001130651 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.061448955 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.0019151891 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.0033384475 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.00224785 |
| 0 | 0 | 0 | 0 | 0 | 0.000389986 |
| 0 | 0 | 0 | 0 | 0 | 0.001010749 |
| 0 | 0 | 0 | 0 | 0 | 1.69956E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.001068803 |
| 0 | 0 | 0 | 0 | 0 | 9.50358E-06 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 1.88211E-06 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 8.58514E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.013237417 |
| 0 | 0 | 0 | 0 | 0 | 4.09981E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.001932305 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.00061534 |
| 0 | 0 | 0 | 0 | 0 | 0.006371959 |
| 0 | 0 | 0 | 0 | 0 | 0.010671704 |
| 0 | 0 | 0 | 0 | 0 | 0.000210907 |
| 0 | 0 | 0 | 0 | 0 | 0.002024885 |
| 0 | 0 | 0 | 0 | 0 | 9.60719E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.0002331177 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 1.34992E-05 |
| 0 | 0 | 0 | 0 | 0 | 2.03013E-06 |
| 0 | 0 | 0 | 0 | 0 | 4.47997E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.0482115538 |
| 0 | 0 | 0 | 0 | 0 | 0.001874893 |
| 0 | 0 | 0 | 0 | 0 | 0.00140617 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_14 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000118115 | 1.42E-04 | 9.21E-05 | 6.39E-05 | 7.73E-05 | 1.31764E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_14 | Model Simulation |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 7243.833282 | 10536240.33 | 14196514.5 | 56310777.33 | 44746673.57 | 6821.901645 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_15 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.27806751 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.1874E-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.7478E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.20837E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000130859 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.43294E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.94889E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.15408E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.04432E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.58387E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.0075013 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_15 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.278159996 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.029751812 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.09196641 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.001214867 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.131540476 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000819435 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.000232154 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004309611 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.360441325 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.002640718 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.195330111 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | **0.278006751** |
| 0 | 0 | 0 | 0 | 0 | 0.029684918 |
| 0 | 0 | 0 | 0 | 0 | 0.091593401 |
| 0 | 0 | 0 | 0 | 0 | 0.001208372 |
| 0 | 0 | 0 | 0 | 0 | 0.130858692 |
| 0 | 0 | 0 | 0 | 0 | 0.000816806 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.00023163 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.004308161 |
| 0 | 0 | 0 | 0 | 0 | **0.360306248** |
| 0 | 0 | 0 | 0 | 0 | 0.002639779 |
| 0 | 0 | 0 | 0 | 0 | 0.156277093 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 9.24852E-05 |
| 0 | 0 | 0 | 0 | 0 | 6.68936E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.00037301 |
| 0 | 0 | 0 | 0 | 0 | 6.49497E-06 |
| 0 | 0 | 0 | 0 | 0 | 0.000681784 |
| 0 | 0 | 0 | 0 | 0 | 2.62895E-06 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 5.24431E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1.45029E-06 |
| 0 | 0 | 0 | 0 | 0 | 0.000133077 |
| 0 | 0 | 0 | 0 | 0 | 9.39769E-07 |
| 0 | 0 | 0 | 0 | 0 | 5.30172E-05 |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_16 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000357946 | 1.53E-03 | 7.03E-04 | 4.88E-04 | 5.41E-04 | 0.000225745 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_16 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 399.3248598 | 133424.6784 | 180651.8593 | 713205.2754 | 565596.857 | 580.9687746 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_17 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.278515235 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.63737E-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.79757E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.70812E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000139858 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000114827 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.002249872 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.74466E-06 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.65423E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.16533E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.001449462 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.7088E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.007591295 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_17 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.278601745 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.04104869 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.227095147 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.005719751 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.140494057 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.001265409 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.112493588 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.001582034 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0.001827117 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004334694 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | **103.5336531** |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.004516511 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.158235637 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | **0.278067751** |
| 0 | 0 | 0 | 0 | 0 | 0.029684918 |
| 0 | 0 | 0 | 0 | 0 | 0.091593401 |
| 0 | 0 | 0 | 0 | 0 | 0.001208372 |
| 0 | 0 | 0 | 0 | 0 | 0.130858692 |
| 0 | 0 | 0 | 0 | 0 | 0.000816806 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.00023163 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.004308161 |
| 0 | 0 | 0 | 0 | 0 | **0.360308248** |
| 0 | 0 | 0 | 0 | 0 | 0.002639779 |
| 0 | 0 | 0 | 0 | 0 | 0.156277093 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.000447724 |
| 0 | 0 | 0 | 0 | 0 | 0.011249359 |
| 0 | 0 | 0 | 0 | 0 | 0.134992306 |
| 0 | 0 | 0 | 0 | 0 | 0.004499744 |
| 0 | 0 | 0 | 0 | 0 | 0.008999487 |
| 0 | 0 | 0 | 0 | 0 | 0.00044503 |
| 0 | 0 | 0 | 0 | 0 | 0.112493588 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.001349923 |
| 0 | 0 | 0 | 0 | 0 | 0.001827117 |
| 0 | 0 | 0 | 0 | 0 | 2.24987E-05 |
| 0 | 0 | 0 | 0 | 0 | **103.1726911** |
| 0 | 0 | 0 | 0 | 0 | 0.001874693 |
| 0 | 0 | 0 | 0 | 0 | 0.001874693 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 8.65106E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.000114414 |
| 0 | 0 | 0 | 0 | 0 | 0.00050944 |
| 0 | 0 | 0 | 0 | 0 | 1.16351E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.000635878 |
| 0 | 0 | 0 | 0 | 0 | 3.57261E-06 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 4.81484E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 4.03399E-06 |
| 0 | 0 | 0 | 0 | 0 | 0.000653728 |
| 0 | 0 | 0 | 0 | 0 | 1.83967E-06 |
| 0 | 0 | 0 | 0 | 0 | 8.36507E-05 |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_18 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.003538946 | 4.75E-03 | 2.90E-03 | 2.02E-03 | 2.43E-03 | 0.000505554 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_18 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 260.7630775 | 138347.5196 | 180905.2627 | 738562.7562 | 594584.3383 | 388.8840679 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
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| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| Model_19 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.27946781 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.64134E-05 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.266E-05 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.39365E-06 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.000134725 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.02945E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.1484E-06 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.62691E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.68236E-08 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.20113E-05 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.45828E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.82474E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.007534334 |
| — | — | — | — | — | — | — | — | — |
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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |
| Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure |
| media_Air | media_Waste Rock | media_Waste Rock | media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — |
| n | n | n | m | m | i | i | i | i | i | bi | bi | bi | i | bi | — | — | — | u | u | u | u | u | ec | ec | ec | u | ec | — | — | — | i | i | i | i | i | bi | bi | bi | i | bi | — | — | — |
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| 6 | 7 | 8 | 9 | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| k | k | k | k | k | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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| Fraction of Country food intake | — | — | — | — | — | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Intake Rate | 15.6 | 0.00002 | — | 1 | — | — | 0.0045 | 0.0045 | 0.0045 | 0.0045 | 0.022 | 0.022 | 0.022 | 0.0067 | 0.022 | — | — | — | — | 0.0045 | 0.0045 | 0.0045 | 0.0045 | 0.022 | 0.022 | 0.022 | 0.0067 | 0.022 | — | — | — | — | 0.0045 | 0.0045 | 0.0045 | 0.0045 | 0.022 | 0.022 | 0.022 | 0.0067 | 0.022 | — | — | — |
| Body Weight | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 |
| Days per year of country food consumption | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours outside per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Days per week | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Weeks per year | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area of Hands ($cm^2$) | — | — | 800 | — | 800 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area, other ($cm^2$) | — | — | 7200 | — | 7200 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface area, total ($cm^2$) | — | — | 15470 | — | 15470 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, hands ($g/cm^2$/event) | — | — | 0.0001 | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, other ($g/cm^2$/event) | — | — | 0.00001 | — | 0.00001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil exposure events per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact events per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact event duration (h) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unit Conversion Factor | 1.00E-03 | — | 1.00E-03 | — | 1.00E-03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

Yes

| Parameter and Symbol | Parameter | Symbol | Average Daily Dose via Air Inhalation (mg/kg/d) | Average Daily Dose via Soil Ingestion (mg/kg/d) | Average Daily Dose via Soil Dermal Exposure (mg/kg) | Average Daily Dose via Water Ingestion (mg/kg/d) | Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Location 1 | Study Area |
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| Closure | Project Phase |
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| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Model_19 | Model Simulation |
| Location 1 | Study Area |
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| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
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| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.279558795 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.041099358 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.109233721 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.0014000045 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.135395472 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000884945 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.00040742 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 0.00028808 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 8.41181E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.004403687 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.461437067 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.006375485 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.157017452 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
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| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | **0.278006751** |
| 0 | 0 | 0 | 0 | 0 | 0.029684918 |
| 0 | 0 | 0 | 0 | 0 | 0.091593401 |
| 0 | 0 | 0 | 0 | 0 | 0.001208372 |
| 0 | 0 | 0 | 0 | 0 | 0.130858692 |
| 0 | 0 | 0 | 0 | 0 | 0.000816806 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0.00023163 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.004308161 |
| 0 | 0 | 0 | 0 | 0 | **0.360308248** |
| 0 | 0 | 0 | 0 | 0 | 0.002639779 |
| 0 | 0 | 0 | 0 | 0 | 0.156277093 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
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| 0 | 0 | 0 | 0 | 0 | 0.0014003 |
| 0 | 0 | 0 | 0 | 0 | 0.011348624 |
| 0 | 0 | 0 | 0 | 0 | 0.017273286 |
| 0 | 0 | 0 | 0 | 0 | 0.000185281 |
| 0 | 0 | 0 | 0 | 0 | 0.003865979 |
| 0 | 0 | 0 | 0 | 0 | 6.55508E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.00040742 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 5.59338E-05 |
| 0 | 0 | 0 | 0 | 0 | 8.41181E-06 |
| 0 | 0 | 0 | 0 | 0 | 9.40994E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.100997783 |
| 0 | 0 | 0 | 0 | 0 | 0.003734781 |
| 0 | 0 | 0 | 0 | 0 | 0.000688192 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 9.09852E-05 |
| 0 | 0 | 0 | 0 | 0 | 6.58169E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.000367034 |
| 0 | 0 | 0 | 0 | 0 | 6.39208E-06 |
| 0 | 0 | 0 | 0 | 0 | 0.000670801 |
| 0 | 0 | 0 | 0 | 0 | 2.58809E-06 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 5.16011E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1.42693E-06 |
| 0 | 0 | 0 | 0 | 0 | 0.000131036 |
| 0 | 0 | 0 | 0 | 0 | 9.25074E-07 |
| 0 | 0 | 0 | 0 | 0 | 5.21666E-05 |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Model_20 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000437937 | 1.70E-03 | 8.28E-04 | 5.73E-04 | 6.33E-04 | 0.000232781 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
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| Location 1 | Study Area |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
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| Exposure Scenario for Lead | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_20 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 526.6734604 | 138749.1365 | 181415.8842 | 740607.5777 | 596457.4825 | 2479.895695 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_21 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.23E-02 | 5.39E-02 | 4.42E-02 | 2.74E-02 | 2.95E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 4.81363E-05 | 7.21E-05 | 5.16E-05 | 3.46E-05 | 4.00E-05 | 0 |
| Arsenic (As) | Arsenic | As | 6.76798E-05 | 1.09E-04 | 7.11E-05 | 4.76E-05 | 5.64E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.81473E-06 | 6.40E-05 | 4.78E-05 | 3.22E-05 | 3.44E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 6.76789E-05 | 1.84E-03 | 1.35E-03 | 9.48E-04 | 1.07E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.00022906 | 3.42E-03 | 2.50E-03 | 1.77E-03 | 2.04E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 8.4985E-05 | 3.39E-04 | 3.29E-04 | 1.76E-04 | 1.96E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 8.626933-07 | 1.69E-05 | 2.16E-05 | 9.06E-06 | 9.88E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.53427E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 5.2414E-06 | 2.21E-05 | 2.05E-05 | 1.13E-05 | 1.26E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.44196E-05 | 1.77E-04 | 3.55E-04 | 9.81E-05 | 1.04E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000209179 | 5.79E-04 | 4.49E-04 | 2.86E-04 | 2.98E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00182123 | 9.07E-02 | 6.69E-02 | 5.08E-02 | 6.48E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_21 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.012293886 | 0.053850618 | 0.044211618 | 0.027369273 | 0.029549936 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.12034543 | 0.180326849 | 0.128976306 | 0.08641919 | 0.099963708 | 0 |
| Arsenic (As) | Arsenic | As | 0.225641319 | 0.364633081 | 0.237112423 | 0.158824114 | 0.188181349 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004816137 | 0.063966333 | 0.047783116 | 0.032237124 | 0.034405913 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.067721517 | **1.838483961** | **1.346602058** | 0.946407016 | **1.070197523** | 0 |
| Copper (Cu) | Copper | Cu | 0.002518158 | 0.037602104 | 0.027489984 | 0.019451839 | 0.022392252 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.004249248 | 0.016939061 | 0.016442486 | 0.008819803 | 0.009809111 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000287614 | 0.005647631 | 0.007212237 | 0.003021223 | 0.003294855 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.76714E-05 | 0.2010223691 | 0.661128476 | 0.116311128 | 0.108483089 | 0 |
| Silver (Ag) | Silver | Ag | 0.001048368 | 0.004423883 | 0.004103089 | 0.002266976 | 0.002514789 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.030035657** | **12.64148649** | **25.35581072** | **7.010769195** | **7.423962687** | 0 |
| Uranium (U) | Uranium | U | 0.034863514 | 0.096572232 | 0.07477455 | 0.047651937 | 0.049616578 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.037947551 | **1.889688018** | **1.394759328** | **1.057316246** | **1.350146445** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0417 | 0.0362 | 0.0217 | 0.0227 | 0 |
| 0 | 0.0594 | 0.0501 | 0.0308 | 0.0321 | 0 |
| 0 | 0.1151 | 0.0987 | 0.0621 | 0.0714 | 0 |
| 0 | 0.0583 | 0.0450 | 0.0303 | 0.0321 | 0 |
| 0 | **1.7420** | **1.3140** | **0.9265** | **1.0450** | 0 |
| 0 | 0.0345 | 0.0261 | 0.0185 | 0.0213 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0034 | 0.0034 | 0.0018 | 0.0020 | 0 |
| 0 | **11.6144** | **24.6981** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.8512** | **1.3719** | **1.0409** | **1.3312** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0.001080386 | 0.001199604 | 0.000503376 | 0.000383242 | 0.000359739 | 0 |
| 0.004222858 | 0.007393722 | 0.001299627 | 0.000827934 | 0.000737252 | 0 |
| 0.031125968 | 0.059324253 | 0.008387589 | 0.004907017 | 0.004240727 | 0 |
| 0.000971327 | 0.001903144 | 0.000248943 | 0.000140286 | 0.000119516 | 0 |
| 0.030778872 | 0.060305731 | 0.007888358 | 0.004445305 | 0.003787163 | 0 |
| 0.000766398 | 0.001405614 | 0.000220127 | 0.00013447 | 0.00011804 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.15644E-05 | 7.27744E-05 | 1.27919E-05 | 8.14913E-06 | 7.25657E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000231884 | 0.000257472 | 0.00010804 | 8.22566E-05 | 7.72111E-05 | 0 |
| 0.151397155 | 0.168103334 | 0.070539243 | 0.053704596 | 0.050411058 | 0 |
| 0.000696534 | 0.000773394 | 0.000324531 | 0.000247079 | 0.000231927 | 0 |
| 0.012317284 | 0.013676456 | 0.005738892 | 0.004369268 | 0.004101314 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.0112135 | 0.010961548 | 0.007493401 | 0.005289957 | 0.006485083 | 0 |
| 0.116117877 | 0.113508872 | 0.077595562 | 0.054778491 | 0.067154244 | 0 |
| 0.194473238 | 0.190103699 | 0.129956391 | 0.091742553 | 0.112469361 | 0 |
| 0.003843406 | 0.00375705 | 0.002568349 | 0.001813123 | 0.00222275 | 0 |
| 0.0369 | 0.036070909 | 0.024658359 | 0.017407538 | 0.021340311 | 0 |
| 0.001750744 | 0.001711407 | 0.001169932 | 0.000825912 | 0.001012505 | 0 |
| 0.004249248 | 0.004153773 | 0.002839552 | 0.002004578 | 0.00245746 | 0 |
| — | — | — | — | — | — |
| 0.000246 | 0.000240473 | 0.000164389 | 0.00011605 | 0.000142269 | 0 |
| 3.76714E-05 | 3.72776E-05 | 2.50743E-05 | 1.73879E-05 | 2.18302E-05 | 0 |
| 0.000816396 | 0.000798053 | 0.000545555 | 0.000385134 | 0.000472145 | 0 |
| **0.878571429** | **0.858831169** | **0.587103778** | **0.414465183** | **0.508102647** | 0 |
| 0.034166667 | 0.03338899 | 0.022831814 | 0.016111809 | 0.019759547 | 0 |
| 0.025625 | 0.025049242 | 0.017123386 | 0.012088568 | 0.014819661 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40334E-06 | 2.63116E-06 | 2.30529E-06 | 1.36688E-06 | 1.22812E-06 | 0 |
| 4.26447E-05 | 7.99559E-05 | 7.00533E-05 | 4.15343E-05 | 3.73203E-05 | 0 |
| 1.01681E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29656E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87485E-06 | 8.65184E-06 | 5.12964E-06 | 4.6092E-06 | 0 |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_22 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.92E-03 | 4.46E-02 | 3.81E-02 | 2.30E-02 | 2.43E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.14089E-05 | 3.53E-05 | 2.75E-05 | 1.75E-05 | 1.93E-05 | 0 |
| Arsenic (As) | Arsenic | As | 1.61347E-05 | 5.26E-05 | 3.94E-05 | 2.54E-05 | 2.97E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.15195E-06 | 5.97E-05 | 4.56E-05 | 3.07E-05 | 3.26E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.64231E-05 | 1.77E-03 | 1.32E-03 | 9.32E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 5.51207E-05 | 3.21E-03 | 2.41E-03 | 1.70E-03 | 1.96E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 2.01024E-05 | 2.76E-04 | 2.85E-04 | 1.46E-04 | 1.59E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 2.05747E-07 | 1.62E-05 | 2.12E-05 | 8.78E-06 | 9.54E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 1.85642E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 1.25541E-06 | 1.81E-05 | 1.80E-05 | 9.55E-06 | 1.05E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 3.43934E-06 | 1.66E-04 | 3.48E-04 | 9.31E-05 | 9.80E-05 | 0 |
| Uranium (U) | Uranium | U | 4.95357E-05 | 4.23E-04 | 3.43E-04 | 2.11E-04 | 2.06E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000438753 | 8.93E-02 | 6.61E-02 | 5.01E-02 | 6.41E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_22 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.002922546 | 0.044602742 | 0.038108667 | 0.023025784 | 0.024331019 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.028523498 | 0.088328071 | 0.068708022 | 0.043793578 | 0.048158712 | 0 |
| Arsenic (As) | Arsenic | As | 0.053792866 | 0.175300162 | 0.131475177 | 0.084769783 | 0.099141812 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001152305 | 0.059675681 | 0.045632303 | 0.030740678 | 0.032619056 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.016433733 | **1.765723559** | **1.321792748** | 0.9316947 14 | **1.051843234** | 0 |
| Copper (Cu) | Copper | Cu | 0.000605976 | 0.035243079 | 0.026429737 | 0.018716978 | 0.021530358 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00100512 | 0.013775601 | 0.014272894 | 0.007282799 | 0.007933693 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 6.85924E-05 | 0.00540984 | 0.007076979 | 0.002926094 | 0.003180808 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 9.28209E-06 | 0.200995619 | 0.661109575 | 0.116298008 | 0.10846664 | 0 |
| Silver (Ag) | Silver | Ag | 0.000251104 | 0.003622869 | 0.003605113 | 0.00190992 | 0.002096504 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.245684001 | **11.86124** | **24.85424028** | **6.652651911** | **6.998349616** | 0 |
| Uranium (U) | Uranium | U | 0.008256021 | 0.070555509 | 0.057085857 | 0.035107905 | 0.034362866 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.009141994 | **1.860546092** | **1.377364988** | **1.044768577** | **1.335757331** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0417 | 0.0362 | 0.0217 | 0.0227 | 0 |
| 0 | 0.0594 | 0.0501 | 0.0308 | 0.0321 | 0 |
| 0 | 0.1151 | 0.0987 | 0.0621 | 0.0714 | 0 |
| 0 | 0.0583 | 0.0450 | 0.0303 | 0.0321 | 0 |
| 0 | **1.7420** | **1.3140** | **0.9265** | **1.0450** | 0 |
| 0 | 0.0345 | 0.0261 | 0.0185 | 0.0213 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0034 | 0.0034 | 0.0018 | 0.0020 | 0 |
| 0 | **11.6144** | **24.6981** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.8512** | **1.3719** | **1.0409** | **1.3312** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0.000270097 | 0.000299901 | 0.000125844 | 9.58104E-05 | 8.99347E-05 | 0 |
| 0.001055715 | 0.001848431 | 0.000324907 | 0.000206983 | 0.000184313 | 0 |
| 0.007781492 | 0.014831063 | 0.002096897 | 0.001226754 | 0.001060182 | 0 |
| 0.000242832 | 0.000475786 | 6.22357E-05 | 3.50715E-05 | 2.98791E-05 | 0 |
| 0.007694718 | 0.015016433 | 0.00197209 | 0.001111326 | 0.000946791 | 0 |
| 0.000191599 | 0.000351403 | 5.50315E-05 | 3.36176E-05 | 2.95101E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.03911E-05 | 1.81936E-05 | 3.19797E-06 | 2.03728E-06 | 1.81414E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.79711E-05 | 6.4368E-05 | 2.701E-05 | 2.05639E-05 | 1.93028E-05 | 0 |
| 0.037849289 | 0.042025833 | 0.017634811 | 0.013426149 | 0.012602765 | 0 |
| 0.000174134 | 0.000193349 | 8.11326E-05 | 6.17698E-05 | 5.79816E-05 | 0 |
| 0.003079321 | 0.003419114 | 0.001434723 | 0.001092317 | 0.001025329 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.002652245 | 0.002613375 | 0.001767982 | 0.0012339 | 0.001535971 | 0 |
| 0.027466661 | 0.027061988 | 0.018307784 | 0.01277726 | 0.015905269 | 0 |
| 0.046000845 | 0.045323188 | 0.030661721 | 0.021399247 | 0.02663801 | 0 |
| 0.000909122 | 0.00089573 | 0.000605973 | 0.000422917 | 0.000526451 | 0 |
| 0.008728354 | 0.008599773 | 0.005817857 | 0.004060364 | 0.005054385 | 0 |
| 0.000414122 | 0.000408022 | 0.000276032 | 0.000192647 | 0.000239809 | 0 |
| 0.001005512 | 0.000990313 | 0.00066996 | 0.000467574 | 0.000582042 | 0 |
| — | — | — | — | — | — |
| 5.81898E-05 | 5.73318E-05 | 3.87857E-05 | 2.70691E-05 | 3.36955E-05 | 0 |
| 9.28209E-06 | 9.20515E-06 | 6.1738E-06 | 4.26729E-06 | 5.38082E-06 | 0 |
| 0.000193111 | 0.000190266 | 0.000128717 | 8.98337E-05 | 0.000111826 | 0 |
| **0.207817944** | **0.204756494** | 0.138520408 | 0.096675341 | 0.120342493 | 0 |
| 0.008081809 | 0.007962753 | 0.005386905 | 0.003759597 | 0.004679986 | 0 |
| 0.006061357 | 0.005972064 | 0.004040179 | 0.002819697 | 0.003509989 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_23 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00286319 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.96937E-06 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.25262E-06 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.35984E-07 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54945E-05 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.61709E-05 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.66354E-06 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.45366E-07 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.06026E-09 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.63629E-06 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.08492E-06 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.99446E-05 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.001297608 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_23 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0 | 0 | 0 | 0 | 0 | 0.00286319 |
| Antimony (Sb) | Antimony | Sb | 0 | 0 | 0 | 0 | 0 | 0.009925708 |
| Arsenic (As) | Arsenic | As | 0 | 0 | 0 | 0 | 0 | 0.027529213 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0 | 0 | 0 | 0 | 0.000636667 |
| Cobalt (Co) | Cobalt | Co | 0 | 0 | 0 | 0 | 0 | 0.015515249 |
| Copper (Cu) | Copper | Cu | 0 | 0 | 0 | 0 | 0 | 0.000617757 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0.0002333177 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0 | 0 | 0 | 0 | 0 | 4.84792E-05 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 2.03013E-06 |
| Silver (Ag) | Silver | Ag | 0 | 0 | 0 | 0 | 0 | 0.000527301 |
| Thallium (Tl) | Thallium | Tl | 0 | 0 | 0 | 0 | 0 | 0.363240858 |
| Uranium (U) | Uranium | U | 0 | 0 | 0 | 0 | 0 | 0.003324253 |
| Zinc (Zn) | Zinc | Zn | 0 | 0 | 0 | 0 | 0 | 0.0270360054 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.00224785 |
| 0 | 0 | 0 | 0 | 0 | 0.003551464 |
| 0 | 0 | 0 | 0 | 0 | 0.016837015 |
| 0 | 0 | 0 | 0 | 0 | 0.000429077 |
| 0 | 0 | 0 | 0 | 0 | 0.013469612 |
| 0 | 0 | 0 | 0 | 0 | 0.00052119 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 3.49561E-05 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0.000482458 |
| 0 | 0 | 0 | 0 | 0 | **0.31499668** |
| 0 | 0 | 0 | 0 | 0 | 0.001449208 |
| 0 | 0 | 0 | 0 | 0 | 0.025627321 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.00061534 |
| 0 | 0 | 0 | 0 | 0 | 0.006371959 |
| 0 | 0 | 0 | 0 | 0 | 0.010671704 |
| 0 | 0 | 0 | 0 | 0 | 0.000210907 |
| 0 | 0 | 0 | 0 | 0 | 0.002024885 |
| 0 | 0 | 0 | 0 | 0 | 9.60719E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.0002333177 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 1.34992E-05 |
| 0 | 0 | 0 | 0 | 0 | 2.03013E-06 |
| 0 | 0 | 0 | 0 | 0 | 4.47997E-05 |
| 0 | 0 | 0 | 0 | 0 | 0.048211538 |
| 0 | 0 | 0 | 0 | 0 | 0.001874893 |
| 0 | 0 | 0 | 0 | 0 | 0.00140617 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 2.28484E-06 |
| 0 | 0 | 0 | 0 | 0 | 2.04938E-05 |
| 0 | 0 | 0 | 0 | 0 | 6.82924E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.07527E-05 |
| 0 | 0 | 0 | 0 | 0 | 4.94725E-07 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 2.3903E-08 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 4.29001E-08 |
| 0 | 0 | 0 | 0 | 0 | 3.26406E-05 |
| 0 | 0 | 0 | 0 | 0 | 1.52303E-07 |
| 0 | 0 | 0 | 0 | 0 | 2.56304E-06 |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Worker Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Worker Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_24 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000141178 | 4.39E-04 | 2.91E-04 | 1.97E-04 | 2.14E-04 | 2.77215E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_24 | Model Simulation |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15661.07949 | 7473336.0571 | 1007300.607 | 3997077.354 | 3188446.226 | 26512.42856 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| **Location 1** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_25 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.55E-02 | 5.96E-02 | 4.80E-02 | 3.02E-02 | 3.39E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42272E-05 | 1.06E-04 | 7.51E-05 | 5.12E-05 | 6.05E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.00010321 | 1.43E-04 | 9.43E-05 | 6.40E-05 | 7.66E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.30892E-06 | 6.30E-05 | 4.71E-05 | 3.18E-05 | 3.38E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.87873E-05 | 2.01E-03 | 1.47E-03 | 1.04E-03 | 1.17E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000177174 | 3.27E-03 | 2.39E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17587E-06 | 1.90E-05 | 2.30E-05 | 1.00E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.5271E-06 | 2.59E-05 | 2.31E-05 | 1.32E-05 | 1.48E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.77976E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.00041242 | 7.78E-04 | 5.84E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001148624 | 8.59E-02 | 6.35E-02 | 4.81E-02 | 6.15E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_25 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.02551803 | 0.059636679 | 0.048021009 | 0.030183558 | 0.033925595 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210572769 | 0.266048067 | 0.187853387 | 0.12801381 | 0.151174147 | 0 |
| Arsenic (As) | Arsenic | As | 0.34407515 | 0.475283109 | 0.314487329 | 0.2134588 | 0.25538186 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004310321 | 0.062975653 | 0.047122457 | 0.03176006 | 0.033826456 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.098829986 | **2.005457646** | **1.473339835** | **1.037684074** | **1.172224005** | 0 |
| Copper (Cu) | Copper | Cu | 0.001947988 | 0.035902917 | 0.026224907 | 0.018576635 | 0.021357555 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00742452 | 0.020048452 | 0.015568433 | 0.010320818 | 0.011649433 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058672 | 0.00632424 | 0.007673249 | 0.003345324 | 0.003695551 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.201203234 | 0.661412376 | 0.11640187 | 0.108585369 | 0 |
| Silver (Ag) | Silver | Ag | 0.001905508 | 0.005180243 | 0.004628078 | 0.002634193 | 0.002968978 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.98561085** | **13.57387193** | **25.99501188** | **7.461830615** | **7.977595823** | 0 |
| Uranium (U) | Uranium | U | 0.068737034 | 0.129676371 | 0.097410188 | 0.063631214 | 0.069208756 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.02393493 | **1.796387025** | **1.321945975** | **1.002636228** | **1.280650576** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.6974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.003759146 | 0.006581818 | 0.001156915 | 0.000737018 | 0.000656294 | 0 |
| 0.029257434 | 0.055762937 | 0.007884071 | 0.004612442 | 0.00398615 | 0 |
| 0.000932491 | 0.001827051 | 0.000238989 | 0.000134677 | 0.000114738 | 0 |
| 0.028336594 | 0.055520521 | 0.007262423 | 0.004092573 | 0.003486555 | 0 |
| 0.000752423 | 0.001379983 | 0.000216113 | 0.000132018 | 0.000115888 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.93265E-05 | 6.88561E-05 | 1.21031E-05 | 7.71036E-06 | 6.86586E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000190622 | 0.000211656 | 8.88148E-05 | 6.76186E-05 | 6.34717E-05 | 0 |
| 0.145034843 | 0.161038961 | 0.067574902 | 0.051447715 | 0.048292584 | 0 |
| 0.000676829 | 0.000751515 | 0.00031535 | 0.000240089 | 0.000225365 | 0 |
| 0.011388558 | 0.012645248 | 0.005306178 | 0.004039824 | 0.003792074 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.00742452 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000156091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001747498 | 0.001676269 | 0.001145911 | 0.000808964 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40334E-06 | 2.63116E-06 | 2.30529E-06 | 1.36688E-06 | 1.22812E-06 | 0 |
| 4.26447E-05 | 7.99559E-05 | 7.00533E-05 | 4.15343E-05 | 3.73203E-05 | 0 |
| 1.01681E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29656E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87485E-06 | 8.65184E-06 | 5.12964E-06 | 4.6092E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_26 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.04E-03 | 4.06E-02 | 3.50E-02 | 2.10E-02 | 2.27E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99434E-05 | 4.29E-05 | 3.26E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45315E-05 | 5.97E-05 | 4.43E-05 | 2.88E-05 | 3.40E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03179E-06 | 5.91E-05 | 4.52E-05 | 3.04E-05 | 3.22E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37486E-05 | 1.91E-03 | 1.43E-03 | 1.01E-03 | 1.14E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28305E-05 | 3.09E-03 | 2.32E-03 | 1.64E-03 | 1.89E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.5281E-07 | 1.65E-05 | 2.14E-05 | 8.91E-06 | 9.72E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.692030E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26638E-06 | 1.87E-05 | 1.84E-05 | 9.82E-06 | 1.08E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.6026E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76089E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279054 | 8.50E-02 | 6.30E-02 | 4.78E-02 | 6.11E-02 | 0 |

| Infant Daily Average Dose Country Foods (mg/kg/d) | Toddler Daily Average Dose Country Foods (mg/kg/d) | Child Daily Average Dose Country Foods (mg/kg/d) | Teen Daily Average Dose Country Foods (mg/kg/d) | Adult Daily Average Dose Country Foods (mg/kg/d) | Worker Daily Average Dose Country Foods (mg/kg/d) |
|---|---|---|---|---|---|
| 0 | 3.47E-02 | 3.10E-02 | 1.81E-02 | 1.92E-02 | 0 |
| 0 | 2.29E-05 | 1.94E-05 | 1.19E-05 | 1.24E-05 | 0 |
| 0 | 3.35E-05 | 2.89E-05 | 1.81E-05 | 2.08E-05 | 0 |
| 0 | 5.78E-05 | 4.46E-05 | 3.00E-05 | 3.18E-05 | 0 |
| 0 | 1.88E-03 | 1.42E-03 | 1.00E-03 | 1.13E-03 | 0 |
| 0 | 3.04E-03 | 2.29E-03 | 1.63E-03 | 1.87E-03 | 0 |
| 0 | 2.56E-04 | 2.72E-04 | 1.36E-04 | 1.47E-04 | 0 |
| 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| 0 | 1.58E-05 | 2.09E-05 | 8.57E-06 | 9.30E-06 | 0 |
| 0 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| 0 | 1.65E-05 | 1.70E-05 | 8.79E-06 | 9.57E-06 | 0 |
| 0 | 1.63E-04 | 3.46E-04 | 9.16E-05 | 9.61E-05 | 0 |
| 0 | 3.74E-04 | 3.10E-04 | 1.88E-04 | 1.78E-04 | 0 |
| 0 | 8.47E-02 | 6.28E-02 | 4.76E-02 | 6.09E-02 | 0 |

| Infant Daily Average Dose via Soil Contact (mg/kg/d) | Toddler Daily Average Dose via Soil Contact (mg/kg/d) | Child Daily Average Dose via Soil Contact (mg/kg/d) | Teen Daily Average Dose via Soil Contact (mg/kg/d) | Adult Daily Average Dose via Soil Contact (mg/kg/d) | Worker Daily Average Dose via Soil Contact (mg/kg/d) |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0.00E+00 |
| 3.75915E-07 | 6.58182E-07 | 1.15691E-07 | 7.37018E-08 | 6.56294E-08 | 0.00E+00 |
| 2.19431E-06 | 4.18222E-06 | 5.91305E-07 | 3.45933E-07 | 2.98961E-07 | 0.00E+00 |
| 2.33123E-07 | 4.56763E-07 | 5.97474E-08 | 3.36693E-08 | 2.86844E-08 | 0.00E+00 |
| 7.08415E-06 | 1.38801E-05 | 1.81561E-06 | 1.02314E-06 | 8.71664E-07 | 0.00E+00 |
| 1.71176E-05 | 3.13946E-05 | 4.91658E-06 | 3.00342E-06 | 2.63645E-06 | 0.00E+00 |
| 0 | 0 | 0 | 0 | 0 | 0.00E+00 |
| 0 | 0 | 0 | 0 | 0 | 0.00E+00 |
| 2.94949E-08 | 5.16426E-08 | 9.07735E-09 | 5.78277E-09 | 5.14939E-09 | 0.00E+00 |
| 0 | 0 | 0 | 0 | 0 | 0.00E+00 |
| 2.38277E-07 | 2.64575E-07 | 1.11018E-07 | 8.45023E-08 | 7.93396E-08 | 0.00E+00 |
| 5.07622E-07 | 5.63636E-07 | 2.36512E-07 | 1.80067E-07 | 1.69024E-07 | 0.00E+00 |
| 1.01524E-06 | 1.12727E-06 | 4.73024E-07 | 3.60134E-07 | 3.38048E-07 | 0.00E+00 |
| 0.000136663 | 0.000151743 | 6.36741E-05 | 4.84779E-05 | 4.55049E-05 | 0.00E+00 |

| Infant Daily Average Dose via Water Contact (mg/kg/d) | Toddler Daily Average Dose via Water Contact (mg/kg/d) | Child Daily Average Dose via Water Contact (mg/kg/d) | Teen Daily Average Dose via Water Contact (mg/kg/d) | Adult Daily Average Dose via Water Contact (mg/kg/d) | Worker Daily Average Dose via Water Contact (mg/kg/d) |
|---|---|---|---|---|---|
| 6.04E-03 | 5.95E-03 | 4.02E-03 | 2.81E-03 | 3.50E-03 | 0.00E+00 |
| 1.96E-05 | 1.93E-05 | 1.30E-05 | 9.10E-06 | 1.13E-05 | 0.00E+00 |
| 2.23E-05 | 2.20E-05 | 1.49E-05 | 1.04E-05 | 1.29E-05 | 0.00E+00 |
| 7.99E-07 | 7.87E-07 | 5.32E-07 | 3.72E-07 | 4.62E-07 | 0.00E+00 |
| 1.67E-05 | 1.64E-05 | 1.11E-05 | 7.75E-06 | 9.65E-06 | 0.00E+00 |
| 2.57E-05 | 2.53E-05 | 1.71E-05 | 1.20E-05 | 1.49E-05 | 0.00E+00 |
| 3.51E-05 | 3.46E-05 | 2.34E-05 | 1.63E-05 | 2.03E-05 | 0.00E+00 |
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00000 |
| 7.23E-07 | 7.13E-07 | 4.82E-07 | 3.36E-07 | 4.19E-07 | 0.00E+00 |
| 7.69E-08 | 7.63E-08 | 5.12E-08 | 3.54E-08 | 4.46E-08 | 0.00E+00 |
| 2.03E-06 | 2.00E-06 | 1.35E-06 | 9.43E-07 | 1.17E-06 | 0.00E+00 |
| 6.09E-06 | 6.01E-06 | 4.06E-06 | 2.84E-06 | 3.53E-06 | 0.00E+00 |
| 9.66E-05 | 9.52E-05 | 6.44E-05 | 4.49E-05 | 5.59E-05 | 0.00E+00 |
| 1.42E-04 | 1.40E-04 | 9.49E-05 | 6.62E-05 | 8.25E-05 | 0.00E+00 |

| Infant Daily Average Dose via Inhalation (mg/kg/d) | Toddler Daily Average Dose via Inhalation (mg/kg/d) | Child Daily Average Dose via Inhalation (mg/kg/d) | Teen Daily Average Dose via Inhalation (mg/kg/d) | Adult Daily Average Dose via Inhalation (mg/kg/d) | Worker Daily Average Dose via Inhalation (mg/kg/d) |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-10 | 8.80303E-10 | 7.71277E-10 | 4.57286E-10 | 4.10891E-10 | 0 |
| 3.15846E-09 | 5.92189E-09 | 5.18846E-09 | 3.07621E-09 | 2.76411E-09 | 0 |
| 3.50835E-10 | 6.57791E-10 | 5.76323E-10 | 3.41699E-10 | 3.07031E-10 | 0 |
| 1.06612E-08 | 1.99898E-08 | 1.75133E-08 | 1.03836E-08 | 9.33008E-09 | 0 |
| 2.31279E-08 | 4.33631E-08 | 3.79926E-08 | 2.25256E-08 | 2.02402E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.68387E-11 | 6.907E-11 | 6.05156E-11 | 3.58795E-11 | 3.22392E-11 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.10194E-10 | 2.06606E-10 | 1.81018E-10 | 1.07325E-10 | 9.64358E-11 | 0 |
| 2.34756E-10 | 4.40152E-10 | 3.85638E-10 | 2.28643E-10 | 2.05446E-10 | 0 |
| 4.69512E-10 | 8.80303E-10 | 7.71277E-10 | 4.57286E-10 | 4.10891E-10 | 0 |
| 6.32014E-08 | 1.18498E-07 | 1.03822E-07 | 6.15557E-08 | 5.53103E-08 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_26 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006036054 | 0.040639137 | 0.034991944 | 0.02095338 | 0.022663135 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049859699 | 0.107140976 | 0.081366857 | 0.052652343 | 0.0594031 | 0 |
| Arsenic (As) | Arsenic | As | 0.081782144 | 0.199059045 | 0.147803415 | 0.096110588 | 0.113437443 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032136 | 0.059089725 | 0.045217541 | 0.030436733 | 0.032249286 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023759282 | **1.911308451** | **1.431869545** | **1.009100611** | **1.138503419** | 0 |
| Copper (Cu) | Copper | Cu | 0.000470919 | 0.033977188 | 0.025451654 | 0.018044796 | 0.020742754 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.01452108 | 0.014777602 | 0.00763528 | 0.008372598 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250949 | 0.005513688 | 0.007143676 | 0.002970814 | 0.0032406 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.201086916 | 0.661334062 | 0.116347505 | 0.108517211 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453297 | 0.00374753 | 0.003685813 | 0.001963152 | 0.002164485 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471630842 | **12.08278506** | **25.00451605** | **6.757461638** | **7.129018184** | 0 |
| Uranium (U) | Uranium | U | 0.016268223 | 0.07844339 | 0.062423088 | 0.038832837 | 0.039001088 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005814939 | **1.771559141** | **1.311556582** | 0.995066244 | **1.272268809** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.6974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000939787 | 0.001645455 | 0.000289229 | 0.000184255 | 0.000164074 | 0 |
| 0.007314358 | 0.013940734 | 0.001971018 | 0.001153111 | 0.000996538 | 0 |
| 0.000233123 | 0.000456763 | 5.97474E-05 | 3.36693E-05 | 2.86844E-05 | 0 |
| 0.001084148 | 0.01388013 | 0.001815606 | 0.001023143 | 0.000871664 | 0 |
| 0.000188106 | 0.000344996 | 5.40283E-05 | 3.30046E-05 | 2.8972E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.83163E-06 | 1.7214E-05 | 3.02578E-06 | 1.92759E-06 | 1.71646E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.76554E-05 | 5.2914E-05 | 2.22037E-05 | 1.69046E-05 | 1.58679E-05 | 0 |
| 0.036258711 | 0.04025974 | 0.016893726 | 0.012861929 | 0.012073146 | 0 |
| 0.000169207 | 0.000187879 | 7.88374E-05 | 6.00223E-05 | 5.63413E-05 | 0 |
| 0.00284714 | 0.003161312 | 0.001326545 | 0.001009956 | 0.000948019 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379585 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_27 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.06E-06 | 7.57E-02 | 5.68E-02 | 3.84E-02 | 3.83E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.48754E-10 | 5.73E-06 | 4.28E-06 | 2.97E-06 | 3.15E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.35427E-09 | 8.32E-06 | 6.17E-06 | 4.48E-06 | 5.23E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.30693E-10 | 2.84E-06 | 2.10E-06 | 1.56E-06 | 1.89E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.3719E-08 | 3.54E-05 | 2.62E-05 | 1.92E-05 | 2.29E-05 | 0 |
| Copper (Cu) | Copper | Cu | 5.36198E-09 | 1.89E-04 | 1.40E-04 | 1.01E-04 | 1.15E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.81456E-11 | 2.52E-06 | 1.87E-06 | 1.35E-06 | 1.54E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 4.74835E-10 | 1.68E-06 | 1.24E-06 | 9.29E-07 | 1.14E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.21996E-10 | 2.61E-07 | 1.92E-07 | 1.47E-07 | 1.89E-07 | 0 |
| Uranium (U) | Uranium | U | 3.69223E-10 | 2.31E-07 | 1.73E-07 | 1.18E-07 | 1.19E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.66638E-07 | 2.54E-02 | 1.87E-02 | 1.43E-02 | 1.83E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_27 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00012676 | 0.0759627595 | 0.056976395 | 0.038552409 | 0.038414513 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.89258E-05 | 0.014495433 | 0.010845331 | 0.007517274 | 0.007949451 | 0 |
| Arsenic (As) | Arsenic | As | 0.000494668 | 0.0286480056 | 0.021359348 | 0.015418348 | 0.017864354 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 8.60737E-06 | 0.002858169 | 0.002114902 | 0.001566431 | 0.001897191 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000903925 | 0.037048562 | 0.027641632 | 0.020088971 | 0.023654303 | 0 |
| Copper (Cu) | Copper | Cu | 3.49001E-06 | 0.002082131 | 0.001547413 | 0.001111251 | 0.001270732 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 6.97158E-07 | 0.000839686 | 0.000623774 | 0.000449107 | 0.000514311 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 1.98777E-06 | 0.000340234 | 0.00025164 | 0.000187687 | 0.000230478 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000182396 | 0.018999763 | 0.014015776 | 0.010082265 | 0.013547199 | 0 |
| Uranium (U) | Uranium | U | 1.28804E-06 | 4.08776E-05 | 3.08535E-05 | 2.08282E-05 | 2.09136E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 7.26652E-05 | 0.530143165 | 0.390031886 | 0.298007467 | 0.38120301 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0757 | 0.0568 | 0.0384 | 0.0383 | 0 |
| 0 | 0.0143 | 0.0107 | 0.0074 | 0.0079 | 0 |
| 0 | 0.0277 | 0.0206 | 0.0149 | 0.0174 | 0 |
| 0 | 0.0028 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0354 | 0.0262 | 0.0192 | 0.0229 | 0 |
| 0 | 0.0021 | 0.0015 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0004 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0002 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0187 | 0.0137 | 0.0105 | 0.0135 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5300** | **0.3899** | **0.2979** | **0.3811** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 6.05604E-06 | 6.72431E-06 | 2.82164E-06 | 2.14824E-06 | 2.01649E-06 | 0 |
| 1.62189E-06 | 2.83973E-06 | 4.99152E-07 | 3.17987E-07 | 2.83158E-07 | 0 |
| 7.84758E-06 | 1.4957E-05 | 2.11471E-06 | 1.23717E-06 | 1.06919E-06 | 0 |
| 1.30693E-07 | 2.5607E-07 | 3.34955E-08 | 1.88756E-08 | 1.6081E-08 | 0 |
| 1.3719E-05 | 2.68799E-05 | 3.51606E-06 | 1.98139E-06 | 1.68804E-06 | 0 |
| 5.89222E-08 | 1.08068E-07 | 1.6924E-08 | 1.03385E-08 | 9.07529E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.27152E-08 | 2.22628E-08 | 3.91323E-09 | 2.49295E-09 | 2.2199E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 9.49669E-08 | 1.05446E-07 | 4.42472E-08 | 3.36873E-08 | 3.16214E-08 | 0 |
| 8.71403E-06 | 9.67559E-06 | 4.06006E-06 | 3.0911E-06 | 2.90153E-06 | 0 |
| 6.15372E-08 | 6.83276E-08 | 2.86715E-08 | 2.18289E-08 | 2.04902E-08 | 0 |
| 3.47163E-06 | 3.85472E-06 | 1.61751E-06 | 1.23148E-06 | 1.15596E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0.000120704 | 0.000226311 | 0.000198282 | 0.000117561 | 0.000105633 | 0 |
| 8.73039E-05 | 0.000163689 | 0.000143416 | 8.50306E-05 | 7.64035E-05 | 0 |
| 0.000486821 | 0.000912755 | 0.00079971 | 0.000474144 | 0.000426039 | 0 |
| 8.47668E-06 | 1.58932E-05 | 1.39248E-05 | 8.25595E-06 | 7.41832E-06 | 0 |
| 0.000889806 | 0.001668325 | 0.001461701 | 0.000866636 | 0.000778709 | 0 |
| 3.43109E-06 | 6.43305E-06 | 5.63631E-06 | 3.34174E-06 | 3.0027E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 6.84443E-07 | 1.28328E-06 | 1.12435E-06 | 6.66626E-07 | 5.98986E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.8928E-06 | 3.54887E-06 | 3.10934E-06 | 1.84351E-06 | 1.65647E-06 | 0 |
| 0.000173681 | 0.000325639 | 0.000285308 | 0.000169158 | 0.000151996 | 0 |
| 1.22651E-06 | 2.29962E-06 | 2.01481E-06 | 1.19457E-06 | 1.07337E-06 | 0 |
| 6.91936E-05 | 0.000129733 | 0.000113666 | 6.73919E-05 | 6.05544E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_28 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.51E-06 | 7.57E-02 | 5.68E-02 | 3.84E-02 | 3.83E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.62189E-10 | 5.73E-06 | 4.28E-06 | 2.97E-06 | 3.15E-06 | 0 |
| Arsenic (As) | Arsenic | As | 5.88569E-10 | 8.32E-06 | 6.17E-06 | 4.48E-06 | 5.23E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 3.26732E-11 | 2.84E-06 | 2.10E-06 | 1.56E-06 | 1.89E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.42975E-09 | 3.54E-05 | 2.62E-05 | 1.92E-05 | 2.29E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.34049E-09 | 1.89E-04 | 1.40E-04 | 1.01E-04 | 1.15E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 9.53641E-12 | 2.52E-06 | 1.87E-06 | 1.35E-06 | 1.54E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 1.18709E-10 | 1.68E-06 | 1.24E-06 | 9.29E-07 | 1.14E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 3.04991E-11 | 2.61E-07 | 1.92E-07 | 1.47E-07 | 1.89E-07 | 0 |
| Uranium (U) | Uranium | U | 9.23058E-11 | 2.31E-07 | 1.73E-07 | 1.18E-07 | 1.19E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.16596E-08 | 2.54E-02 | 1.87E-02 | 1.43E-02 | 1.83E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_28 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 3.169E-05 | 0.075788018 | 0.056825567 | 0.038452628 | 0.038333775 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.2231E-05 | 0.014370537 | 0.010737395 | 0.007453262 | 0.007891935 | 0 |
| Arsenic (As) | Arsenic | As | 0.000123667 | 0.027952272 | 0.02075798 | 0.015061812 | 0.017544024 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.15184E-06 | 0.002846057 | 0.002104433 | 0.001560225 | 0.001891615 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000225881 | 0.035777159 | 0.026542719 | 0.019437508 | 0.023069006 | 0 |
| Copper (Cu) | Copper | Cu | 8.72502E-07 | 0.002077225 | 0.001543173 | 0.001109996 | 0.001268473 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.74289E-07 | 0.000838707 | 0.000622928 | 0.000448605 | 0.00051386 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 4.96942E-07 | 0.000337493 | 0.000249275 | 0.000186279 | 0.000229212 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.55986E-05 | 0.018748277 | 0.01379875 | 0.010053078 | 0.013531026 | 0 |
| Uranium (U) | Uranium | U | 3.22011E-07 | 3.90517E-05 | 2.93204E-05 | 1.99155E-05 | 2.00932E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.81663E-05 | 0.530042974 | 0.389945423 | 0.297956 | 0.381156727 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0757 | 0.0568 | 0.0384 | 0.0383 | 0 |
| 0 | 0.0143 | 0.0107 | 0.0074 | 0.0079 | 0 |
| 0 | 0.0277 | 0.0206 | 0.0149 | 0.0174 | 0 |
| 0 | 0.0028 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0354 | 0.0262 | 0.0192 | 0.0229 | 0 |
| 0 | 0.0021 | 0.0015 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0004 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0002 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0187 | 0.0137 | 0.0105 | 0.0135 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5300** | **0.3899** | **0.2979** | **0.3811** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.51401E-06 | 1.68108E-06 | 7.05411E-07 | 5.3706E-07 | 5.04124E-07 | 0 |
| 4.05471E-07 | 7.09932E-07 | 1.24788E-07 | 7.94967E-08 | 7.07896E-08 | 0 |
| 1.9619E-06 | 3.73926E-06 | 5.28677E-07 | 3.09293E-07 | 2.67296E-07 | 0 |
| 3.26732E-08 | 6.40174E-08 | 8.37387E-09 | 4.7189E-09 | 4.02026E-09 | 0 |
| 3.42975E-06 | 6.71998E-06 | 8.79014E-07 | 4.95348E-07 | 4.22011E-07 | 0 |
| 1.47307E-08 | 2.70169E-08 | 4.231E-09 | 2.58462E-09 | 2.26882E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.1788E-09 | 5.56571E-09 | 9.78309E-10 | 6.23236E-10 | 5.54975E-10 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.37417E-08 | 2.63616E-08 | 1.10618E-08 | 8.42182E-09 | 7.90534E-09 | 0 |
| 2.17851E-06 | 2.4189E-06 | 1.01501E-06 | 7.72774E-07 | 7.25382E-07 | 0 |
| 1.53843E-08 | 1.70819E-08 | 7.16788E-09 | 5.45722E-09 | 5.12254E-09 | 0 |
| 8.67908E-07 | 9.63679E-07 | 4.04377E-07 | 3.07874E-07 | 2.88689E-07 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 3.0176E-05 | 5.65778E-05 | 4.95706E-05 | 2.93902E-05 | 2.64083E-05 | 0 |
| 2.1826E-05 | 4.09222E-05 | 3.58539E-05 | 2.12576E-05 | 1.91039E-05 | 0 |
| 0.000121705 | 0.000228189 | 0.000199927 | 0.000118536 | 0.00010651 | 0 |
| 2.11917E-06 | 3.9733E-06 | 3.4812E-06 | 2.06399E-06 | 1.85458E-06 | 0 |
| 0.000222452 | 0.000417081 | 0.000365425 | 0.000216659 | 0.000194677 | 0 |
| 8.57771E-07 | 1.60826E-06 | 1.40908E-06 | 8.35436E-07 | 7.50674E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.71111E-07 | 3.20821E-07 | 2.81087E-07 | 1.66655E-07 | 1.49747E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.732E-07 | 8.87217E-07 | 7.77334E-07 | 4.60878E-07 | 4.14118E-07 | 0 |
| 4.34201E-05 | 8.14098E-05 | 7.13271E-05 | 4.22895E-05 | 3.79989E-05 | 0 |
| 3.06627E-07 | 5.74904E-07 | 5.03701E-07 | 2.98642E-07 | 2.68343E-07 | 0 |
| 1.72984E-05 | 3.24333E-05 | 2.84164E-05 | 1.6848E-05 | 1.51386E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_29 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 4.87E-05 | 7.62E-02 | 5.71E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.30264E-08 | 5.83E-06 | 4.34E-06 | 3.02E-06 | 3.20E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.65679E-08 | 8.48E-06 | 6.26E-06 | 4.55E-06 | 5.31E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.89379E-09 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.10075E-07 | 3.58E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 6.02349E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.63E-06 | 1.19E-06 | 9.20E-07 | 1.19E-06 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.88245E-10 | 2.53E-06 | 1.88E-06 | 1.36E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 8.81692E-12 | 1.14E-08 | 3.74E-08 | 6.59E-09 | 6.15E-09 | 0 |
| Silver (Ag) | Silver | Ag | 1.04209E-08 | 1.73E-06 | 1.27E-06 | 9.50E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.63506E-09 | 9.35E-07 | 6.85E-07 | 5.27E-07 | 6.80E-07 | 0 |
| Uranium (U) | Uranium | U | 5.81221E-09 | 2.41E-07 | 1.78E-07 | 1.22E-07 | 1.23E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 2.14666E-06 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_29 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.58432E-05 | 0.076256417 | 0.057153561 | 0.038689986 | 0.038561676 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.69926E-05 | 0.014590478 | 0.010875289 | 0.007550561 | 0.007999501 | 0 |
| Arsenic (As) | Arsenic | As | 0.000130532 | 0.028356052 | 0.020937308 | 0.015210733 | 0.017744495 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.8524E-06 | 0.002882712 | 0.00212901 | 0.001578666 | 0.001914273 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000162465 | 0.035884259 | 0.026451356 | 0.019405269 | 0.023073764 | 0 |
| Copper (Cu) | Copper | Cu | 9.56269E-07 | 0.002098161 | 0.00155788 | 0.001120711 | 0.001280912 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 8.1304E-05 | 5.97409E-05 | 4.5987E-05 | 5.95719E-05 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.69084E-07 | 0.0008448 | 0.000627401 | 0.000451825 | 0.000517656 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 4.40846E-09 | 5.69533E-06 | 1.86896E-05 | 3.29475E-06 | 3.07611E-06 | 0 |
| Silver (Ag) | Silver | Ag | 2.41654E-06 | 0.000345671 | 0.000254547 | 0.00019027 | 0.000233959 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000384936 | 0.066865594 | 0.049042718 | 0.037676684 | 0.048617136 | 0 |
| Uranium (U) | Uranium | U | 1.12027E-06 | 4.03993E-05 | 2.99434E-05 | 2.0402E-05 | 2.05863E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.16129E-05 | 0.535687973 | 0.394080116 | 0.301118603 | 0.385201906 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0762 | 0.0571 | 0.0387 | 0.0385 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0281 | 0.0208 | 0.0152 | 0.0177 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0263 | 0.0193 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0664 | 0.0488 | 0.0375 | 0.0485 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5356** | **0.3940** | **0.3011** | **0.3852** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 4.87156E-05 | 5.40912E-05 | 2.26977E-05 | 1.72807E-05 | 1.62209E-05 | 0 |
| 2.25121E-05 | 3.94161E-05 | 6.92833E-06 | 4.41373E-06 | 3.9303E-06 | 0 |
| 8.85597E-05 | 0.00016879 | 2.38644E-05 | 1.39615E-05 | 1.20657E-05 | 0 |
| 1.89379E-06 | 3.71054E-06 | 4.85361E-07 | 2.73514E-07 | 2.3302E-07 | 0 |
| 0.000110075 | 0.000215672 | 2.82113E-05 | 1.58978E-05 | 1.35441E-05 | 0 |
| 6.61922E-07 | 1.214E-06 | 1.90119E-07 | 1.16139E-07 | 1.01949E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.00627E-07 | 1.76186E-07 | 3.0969E-08 | 1.9729E-08 | 1.75681E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.08418E-06 | 2.31416E-06 | 9.71064E-07 | 7.39314E-07 | 6.93974E-07 | 0 |
| 0.000331076 | 0.000367609 | 0.000154255 | 0.000117441 | 0.000110239 | 0 |
| 9.68702E-07 | 1.0756E-06 | 4.5134E-07 | 3.43625E-07 | 3.22551E-07 | 0 |
| 4.47209E-05 | 4.96557E-05 | 2.08364E-05 | 1.58637E-05 | 1.48908E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.50539E-05 | 3.42663E-05 | 2.34747E-05 | 1.65367E-05 | 2.02727E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.8788E-08 | 2.81411E-08 | 1.92375E-08 | 1.35807E-08 | 1.66489E-08 | 0 |
| 4.40846E-09 | 4.36238E-09 | 2.9343E-09 | 2.0348E-09 | 2.55466E-09 | 0 |
| 2.22261E-19 | 2.17268E-19 | 1.48529E-19 | 1.04852E-19 | 1.2854E-19 | 0 |
| 3.17516E-16 | 3.10382E-16 | 2.1218E-16 | 1.49788E-16 | 1.83629E-16 | 0 |
| 1.18539E-17 | 1.15876E-17 | 7.92138E-18 | 5.59209E-18 | 6.85547E-18 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 7.1276E-06 | 1.33638E-05 | 1.17086E-05 | 6.942E-06 | 6.23768E-06 | 0 |
| 9.42652E-06 | 1.76741E-05 | 1.54851E-05 | 9.18106E-06 | 8.24957E-06 | 0 |
| 4.19727E-05 | 7.86959E-05 | 6.89494E-05 | 4.08798E-05 | 3.67322E-05 | 0 |
| 9.58614E-07 | 1.79734E-06 | 1.57473E-06 | 9.33652E-07 | 8.38926E-07 | 0 |
| 5.23899E-05 | 9.82274E-05 | 8.60618E-05 | 5.10257E-05 | 4.58487E-05 | 0 |
| 2.94347E-07 | 5.5188E-07 | 4.83529E-07 | 2.86682E-07 | 2.57596E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.96694E-08 | 7.43774E-08 | 6.51657E-08 | 3.86365E-08 | 3.47165E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.3236E-07 | 6.23151E-07 | 5.45973E-07 | 3.23705E-07 | 2.90863E-07 | 0 |
| 5.38605E-05 | 0.000100985 | 8.84777E-05 | 5.2458E-05 | 4.71358E-05 | 0 |
| 1.5157E-07 | 2.84183E-07 | 2.48887E-07 | 1.47623E-07 | 1.32646E-07 | 0 |
| 6.89197E-06 | 1.2922E-05 | 1.13216E-05 | 6.71251E-06 | 6.03147E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_30 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.22E-05 | 7.62E-02 | 5.71E-02 | 3.87E-02 | 3.85E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 5.56789E-09 | 5.81E-06 | 4.33E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 6.64198E-09 | 8.45E-06 | 6.26E-06 | 4.55E-06 | 5.31E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.73447E-10 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.75188E-08 | 3.56E-05 | 2.63E-05 | 1.93E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.50587E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.63E-06 | 1.19E-06 | 9.20E-07 | 1.19E-06 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 9.58989E-11 | 2.53E-06 | 1.88E-06 | 1.36E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 2.17246E-12 | 1.14E-08 | 3.74E-08 | 6.59E-09 | 6.15E-09 | 0 |
| Silver (Ag) | Silver | Ag | 2.60522E-09 | 1.72E-06 | 1.27E-06 | 9.47E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.15877E-09 | 9.31E-07 | 6.84E-07 | 5.26E-07 | 6.79E-07 | 0 |
| Uranium (U) | Uranium | U | 1.45305E-09 | 2.36E-07 | 1.76E-07 | 1.20E-07 | 1.21E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.36651E-07 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_30 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.39608E-05 | 0.076205826 | 0.057128156 | 0.038671819 | 0.038544832 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.62763E-05 | 0.014521563 | 0.010840581 | 0.007527686 | 0.007974895 | 0 |
| Arsenic (As) | Arsenic | As | 3.26331E-05 | 0.028170438 | 0.020867698 | 0.015169602 | 0.017707896 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 7.131E-07 | 0.002878581 | 0.002127465 | 0.001577761 | 0.00191347 | 0 |
| Cobalt (Co) | Cobalt | Co | 4.06162E-05 | 0.035648834 | 0.026365651 | 0.019355076 | 0.023029219 | 0 |
| Copper (Cu) | Copper | Cu | 2.39067E-07 | 0.002096836 | 0.001557375 | 0.001120408 | 0.001280642 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 8.1304E-05 | 5.97409E-05 | 4.5987E-05 | 5.95719E-05 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 4.18837E-08 | 0.000845591 | 0.000627314 | 0.000451771 | 0.000517604 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 1.08623E-09 | 5.69204E-06 | 1.86874E-05 | 3.29321E-06 | 3.07419E-06 | 0 |
| Silver (Ag) | Silver | Ag | 6.04135E-07 | 0.000343468 | 0.000253409 | 0.000189473 | 0.00023322 | 0 |
| Thallium (Tl) | Thallium | Tl | 9.62341E-05 | 0.066514149 | 0.048860668 | 0.03754926 | 0.048499105 | 0 |
| Uranium (U) | Uranium | U | 2.80068E-07 | 3.93795E-05 | 2.94182E-05 | 2.00336E-05 | 2.02449E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.29032E-05 | 0.53564104 | 0.394055997 | 0.301101671 | 0.385186214 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0762 | 0.0571 | 0.0387 | 0.0385 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0281 | 0.0208 | 0.0152 | 0.0177 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0263 | 0.0193 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0664 | 0.0488 | 0.0375 | 0.0485 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5356** | **0.3940** | **0.3011** | **0.3852** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.21789E-05 | 1.35228E-05 | 5.67441E-06 | 4.32018E-06 | 4.05524E-06 | 0 |
| 5.62803E-06 | 9.85401E-06 | 1.73208E-06 | 1.10343E-06 | 9.82575E-07 | 0 |
| 2.21399E-05 | 4.21974E-05 | 5.9661E-06 | 3.49037E-06 | 3.01643E-06 | 0 |
| 4.73447E-07 | 9.27635E-07 | 1.2134E-07 | 6.83786E-08 | 5.82549E-08 | 0 |
| 2.75188E-05 | 5.39181E-05 | 7.05282E-06 | 3.97446E-06 | 3.38602E-06 | 0 |
| 1.65481E-07 | 3.035E-07 | 4.75299E-08 | 2.90348E-08 | 2.54873E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.51568E-08 | 4.40455E-08 | 7.74225E-09 | 4.93224E-09 | 4.39202E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.21045E-07 | 5.7854E-07 | 2.42766E-07 | 1.84828E-07 | 1.73493E-07 | 0 |
| 8.2769E-05 | 9.19022E-05 | 3.85639E-05 | 2.93603E-05 | 2.75598E-05 | 0 |
| 2.42176E-07 | 2.68899E-07 | 1.12835E-07 | 8.59061E-08 | 8.06378E-08 | 0 |
| 1.11802E-05 | 1.24139E-05 | 5.20911E-06 | 3.96592E-06 | 3.72271E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.29168E-06 | 8.16953E-06 | 5.5268E-06 | 3.85723E-06 | 4.80152E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 6.80952E-09 | 6.70921E-09 | 4.53887E-09 | 3.16774E-09 | 3.94324E-09 | 0 |
| 1.08623E-09 | 1.07723E-09 | 7.22484E-10 | 4.99376E-10 | 6.29687E-10 | 0 |
| 5.25739E-20 | 5.17994E-20 | 3.5043E-20 | 2.4457E-20 | 3.04443E-20 | 0 |
| 7.51056E-17 | 7.39991E-17 | 5.00614E-17 | 3.49385E-17 | 4.34919E-17 | 0 |
| 2.80394E-18 | 2.76263E-18 | 1.86896E-18 | 1.30437E-18 | 1.6237E-18 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.7819E-06 | 3.34094E-06 | 2.92716E-06 | 1.7355E-06 | 1.55942E-06 | 0 |
| 2.35663E-06 | 4.41852E-06 | 3.87128E-06 | 2.29527E-06 | 2.06239E-06 | 0 |
| 1.04932E-05 | 1.9674E-05 | 1.72373E-05 | 1.02199E-05 | 9.18305E-06 | 0 |
| 2.39653E-07 | 4.49334E-07 | 3.93683E-07 | 2.33413E-07 | 2.09731E-07 | 0 |
| 1.30975E-05 | 2.45568E-05 | 2.15155E-05 | 1.27584E-05 | 1.14622E-05 | 0 |
| 7.35868E-08 | 1.3797E-07 | 1.20882E-07 | 7.16706E-08 | 6.43991E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.91736E-09 | 1.85944E-08 | 1.62914E-08 | 9.65911E-09 | 8.67912E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.30899E-08 | 1.55788E-07 | 1.36493E-07 | 8.09263E-08 | 7.27157E-08 | 0 |
| 1.34651E-05 | 2.52462E-05 | 2.21194E-05 | 1.31145E-05 | 1.17839E-05 | 0 |
| 3.78925E-08 | 7.10459E-08 | 6.22468E-08 | 3.69058E-08 | 3.31614E-08 | 0 |
| 1.72299E-06 | 3.23049E-06 | 2.83039E-06 | 1.67813E-06 | 1.50787E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_31 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.48E-05 | 7.63E-02 | 5.72E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 9.65511E-09 | 5.82E-06 | 4.34E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.89278E-08 | 8.45E-06 | 6.24E-06 | 4.53E-06 | 5.29E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-09 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.23826E-07 | 3.58E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 6.56124E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.40117E-10 | 2.53E-06 | 1.88E-06 | 1.35E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 1.08968E-08 | 1.73E-06 | 1.27E-06 | 9.51E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.75743E-09 | 2.76E-07 | 2.01E-07 | 1.54E-07 | 1.97E-07 | 0 |
| Uranium (U) | Uranium | U | 6.18247E-09 | 2.41E-07 | 1.78E-07 | 1.22E-07 | 1.23E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 2.31364E-06 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_31 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.59665E-05 | 0.076316973 | 0.057195731 | 0.038719299 | 0.038591282 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.49925E-05 | 0.014546287 | 0.010839839 | 0.007527488 | 0.007973062 | 0 |
| Arsenic (As) | Arsenic | As | 0.000101193 | 0.028188344 | 0.020795488 | 0.015111205 | 0.017627719 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.10783E-06 | 0.002883151 | 0.002128957 | 0.001578819 | 0.001914686 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000132537 | 0.035859432 | 0.026405438 | 0.019381075 | 0.023056659 | 0 |
| Copper (Cu) | Copper | Cu | 7.54626E-07 | 0.002098694 | 0.001558155 | 0.001120923 | 0.001261126 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.20074E-07 | 0.000844408 | 0.000627012 | 0.000451578 | 0.0005173 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 2.1979E-06 | 0.000345466 | 0.000254281 | 0.000190151 | 0.000233904 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000341519 | 0.019722331 | 0.014385695 | 0.011013648 | 0.014096608 | 0 |
| Uranium (U) | Uranium | U | 1.04242E-06 | 4.01538E-05 | 2.9727E-05 | 2.02733E-05 | 2.04606E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.88782E-05 | 0.53605592 | 0.394348029 | 0.301324685 | 0.385466597 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0763 | 0.0572 | 0.0387 | 0.0386 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0280 | 0.0208 | 0.0151 | 0.0176 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0264 | 0.0194 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0193 | 0.0142 | 0.0109 | 0.0140 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5360** | **0.3943** | **0.3013** | **0.3854** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47845E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 2.41378E-05 | 4.22624E-05 | 7.42864E-06 | 4.73245E-06 | 4.21412E-06 | 0 |
| 9.64261E-05 | 0.000183782 | 2.59842E-05 | 1.52016E-05 | 1.31375E-05 | 0 |
| 2.02482E-06 | 3.96727E-06 | 5.18943E-07 | 2.92438E-07 | 2.49142E-07 | 0 |
| 0.000123826 | 0.000242614 | 3.17354E-05 | 1.78838E-05 | 1.5236E-05 | 0 |
| 7.21015E-07 | 1.32238E-06 | 2.07092E-07 | 1.26508E-07 | 1.11051E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.13372E-07 | 1.98501E-07 | 3.48915E-08 | 2.22278E-08 | 1.97932E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.17936E-06 | 2.41985E-06 | 1.01541E-06 | 7.73078E-07 | 7.25668E-07 | 0 |
| 0.000339817 | 0.000377314 | 0.000158328 | 0.000120542 | 0.00011315 | 0 |
| 1.03041E-06 | 1.14411E-06 | 4.80091E-07 | 3.65514E-07 | 3.43098E-07 | 0 |
| 4.82008E-05 | 5.35196E-05 | 2.24578E-05 | 1.70981E-05 | 1.60495E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.18161E-06 | 2.21544E-06 | 1.94105E-06 | 1.15084E-06 | 1.03408E-06 | 0 |
| 8.54753E-07 | 1.6026E-06 | 1.40412E-06 | 8.32496E-07 | 7.48033E-07 | 0 |
| 4.7666E-06 | 8.93705E-06 | 7.83019E-06 | 4.64249E-06 | 4.17147E-06 | 0 |
| 8.30129E-08 | 1.55643E-07 | 1.36367E-07 | 8.08513E-08 | 7.26483E-08 | 0 |
| 8.71157E-06 | 1.63336E-05 | 1.43107E-05 | 8.48473E-06 | 7.62389E-06 | 0 |
| 3.36111E-06 | 6.30185E-06 | 5.52136E-06 | 3.27359E-06 | 2.94146E-06 | 0 |
| — | — | — | — | — | — |
| 6.70135E-09 | 1.25646E-08 | 1.10084E-08 | 6.52685E-09 | 5.86465E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.85312E-08 | 3.47448E-08 | 3.04416E-08 | 1.80487E-08 | 1.62175E-08 | 0 |
| 1.70174E-06 | 3.19064E-06 | 2.79548E-06 | 1.65743E-06 | 1.48927E-06 | 0 |
| 1.20138E-08 | 2.2525E-08 | 1.97353E-08 | 1.1701E-08 | 1.05138E-08 | 0 |
| 6.77479E-07 | 1.27023E-06 | 1.11291E-06 | 6.59838E-07 | 5.92892E-07 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_32 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.37E-05 | 7.63E-02 | 5.72E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.41378E-09 | 5.81E-06 | 4.33E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 7.23196E-09 | 8.41E-06 | 6.23E-06 | 4.53E-06 | 5.28E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-10 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-08 | 3.57E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.64031E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 8.50292E-11 | 2.53E-06 | 1.88E-06 | 1.35E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 2.72421E-09 | 1.72E-06 | 1.27E-06 | 9.48E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.18936E-09 | 2.72E-07 | 2.00E-07 | 1.53E-07 | 1.96E-07 | 0 |
| Uranium (U) | Uranium | U | 1.54562E-09 | 2.36E-07 | 1.76E-07 | 1.20E-07 | 1.21E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.78409E-07 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_32 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.39916E-05 | 0.07626968 9 | 0.057175131 | 0.038703861 | 0.038576825 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.24813E-06 | 0.014513388 | 0.010833214 | 0.007523314 | 0.00796934 | 0 |
| Arsenic (As) | Arsenic | As | 2.52982E-05 | 0.028043805 | 0.020770127 | 0.015096321 | 0.017614737 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.26957E-07 | 0.002880059 | 0.002128465 | 0.001578539 | 0.001914445 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.31343E-05 | 0.035665221 | 0.026370904 | 0.019361299 | 0.023039514 | 0 |
| Copper (Cu) | Copper | Cu | 1.88657E-07 | 0.002097655 | 0.001557958 | 0.001120804 | 0.00128102 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 3.00184E-08 | 0.00084425 | 0.000626977 | 0.000451556 | 0.00051728 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 5.49474E-07 | 0.000343625 | 0.000253496 | 0.000189558 | 0.000233348 | 0 |
| Thallium (Tl) | Thallium | Tl | 8.53796E-05 | 0.019436952 | 0.014264852 | 0.010921999 | 0.014010629 | 0 |
| Uranium (U) | Uranium | U | 2.60606E-07 | 3.93088E-05 | 2.93521E-05 | 1.99904E-05 | 2.01954E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.22196E-05 | 0.536014828 | 0.394330351 | 0.301311367 | 0.385454115 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0763 | 0.0572 | 0.0387 | 0.0386 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0280 | 0.0208 | 0.0151 | 0.0176 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0264 | 0.0194 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0193 | 0.0142 | 0.0109 | 0.0140 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5360** | **0.3943** | **0.3013** | **0.3854** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 6.03444E-06 | 1.05656E-05 | 1.85716E-06 | 1.18311E-06 | 1.05353E-06 | 0 |
| 2.41065E-05 | 4.59456E-05 | 6.49604E-06 | 3.8004E-06 | 3.28437E-06 | 0 |
| 5.06204E-07 | 9.91817E-07 | 1.29736E-07 | 7.31096E-08 | 6.22855E-08 | 0 |
| 3.09564E-05 | 6.06536E-05 | 7.93386E-06 | 4.47095E-06 | 3.80901E-06 | 0 |
| 1.80254E-07 | 3.30595E-07 | 5.1773E-08 | 3.16269E-08 | 2.77627E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.83431E-08 | 4.96254E-08 | 8.72287E-09 | 5.55695E-09 | 4.9483E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.44841E-07 | 6.04962E-07 | 2.53853E-07 | 1.9327E-07 | 1.81417E-07 | 0 |
| 8.49542E-05 | 9.43086E-05 | 3.9582E-05 | 3.01355E-05 | 2.82874E-05 | 0 |
| 2.57603E-07 | 2.86028E-07 | 1.20023E-07 | 9.13785E-08 | 8.57746E-08 | 0 |
| 1.20502E-05 | 1.33799E-05 | 5.61445E-06 | 4.27452E-06 | 4.01238E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 2.95402E-07 | 5.53859E-07 | 4.85263E-07 | 2.8771E-07 | 2.5852E-07 | 0 |
| 2.13688E-07 | 4.00651E-07 | 3.5103E-07 | 2.08124E-07 | 1.87008E-07 | 0 |
| 1.19165E-06 | 2.23426E-06 | 1.95756E-06 | 1.16062E-06 | 1.04287E-06 | 0 |
| 2.07532E-08 | 3.89109E-08 | 3.40917E-08 | 2.02128E-08 | 1.81621E-08 | 0 |
| 2.17789E-06 | 4.0834E-06 | 3.57767E-06 | 2.12118E-06 | 1.90597E-06 | 0 |
| 8.40278E-09 | 1.57546E-08 | 1.38034E-08 | 8.18397E-09 | 7.35364E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.67534E-09 | 3.14114E-09 | 2.75211E-09 | 1.63171E-09 | 1.46616E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.63281E-09 | 8.6862E-09 | 7.6104E-09 | 4.51217E-09 | 4.05438E-09 | 0 |
| 4.25435E-07 | 7.97661E-07 | 6.9887E-07 | 4.14357E-07 | 3.72317E-07 | 0 |
| 3.00345E-09 | 5.63125E-09 | 4.93382E-09 | 2.92524E-09 | 2.62545E-09 | 0 |
| 1.6937E-07 | 3.17556E-07 | 2.78227E-07 | 1.64959E-07 | 1.48223E-07 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_33 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.48E-05 | 1.26E-03 | 9.26E-04 | 6.29E-04 | 6.26E-04 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.54399E-08 | 1.75E-07 | 1.21E-07 | 8.36E-08 | 8.90E-08 | 0 |
| Arsenic (As) | Arsenic | As | 2.94389E-08 | 2.42E-07 | 1.47E-07 | 1.06E-07 | 1.22E-07 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-09 | 8.35E-08 | 5.93E-08 | 4.39E-08 | 5.31E-08 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.23826E-07 | 8.21E-07 | 4.60E-07 | 3.33E-07 | 3.90E-07 | 0 |
| Copper (Cu) | Copper | Cu | 1.2627E-05 | 9.43E-05 | 7.38E-05 | 5.03E-05 | 5.92E-05 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.28E-08 | 9.42E-09 | 7.25E-09 | 9.40E-09 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.40117E-10 | 4.08E-08 | 3.00E-08 | 2.16E-08 | 2.47E-08 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 1.04E-12 | 7.68E-13 | 5.91E-13 | 7.65E-13 | 0 |
| Silver (Ag) | Silver | Ag | 1.08968E-08 | 7.96E-08 | 5.49E-08 | 4.11E-08 | 4.95E-08 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.75743E-09 | 3.27E-08 | 2.24E-08 | 1.72E-08 | 2.15E-08 | 0 |
| Uranium (U) | Uranium | U | 6.18247E-09 | 1.46E-08 | 8.70E-09 | 6.20E-09 | 6.21E-09 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.09221E-05 | 1.16E-03 | 8.79E-04 | 6.49E-04 | 8.28E-04 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_33 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.47849E-05 | 0.001262511 | 0.000926426 | 0.000629325 | 0.000626256 | 0 |
| Antimony (Sb) | Antimony | Sb | 3.85998E-05 | 0.00043687 | 0.000301588 | 0.000209103 | 0.000222406 | 0 |
| Arsenic (As) | Arsenic | As | 9.81298E-05 | 0.000807875 | 0.000488673 | 0.000351985 | 0.000407417 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-06 | 8.35079E-05 | 5.93186E-05 | 4.39018E-05 | 5.31412E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000123826 | 0.000820926 | 0.000459863 | 0.000332552 | 0.000390428 | 0 |
| Copper (Cu) | Copper | Cu | 0.000138759 | 0.001036443 | 0.000811241 | 0.000552853 | 0.00065044 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 6.41189E-07 | 4.71136E-07 | 3.62666E-07 | 4.69803E-07 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.13372E-07 | 1.3605E-05 | 9.9912E-06 | 7.19467E-06 | 8.24037E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 5.22347E-10 | 3.83813E-10 | 2.95449E-10 | 3.82727E-10 | 0 |
| Silver (Ag) | Silver | Ag | 2.17936E-06 | 1.59173E-05 | 1.09799E-05 | 8.22535E-06 | 9.90433E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000339817 | 0.002338018 | 0.001599915 | 0.001226081 | 0.001536217 | 0 |
| Uranium (U) | Uranium | U | 1.03041E-06 | 2.44114E-06 | 1.45014E-06 | 1.03285E-06 | 1.03484E-06 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000852544 | 0.024149889 | 0.018313477 | 0.013515336 | 0.017245659 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0012 | 0.0009 | 0.0006 | 0.0006 | 0 |
| 0 | 0.0004 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0006 | 0.0005 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0006 | 0.0004 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0009 | 0.0007 | 0.0005 | 0.0006 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0020 | 0.0014 | 0.0011 | 0.0014 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0233 | 0.0178 | 0.0131 | 0.0168 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 2.41378E-05 | 4.22624E-05 | 7.42864E-06 | 4.73245E-06 | 4.21412E-06 | 0 |
| 9.64261E-05 | 0.000183782 | 2.59842E-05 | 1.52016E-05 | 1.31375E-05 | 0 |
| 2.02482E-06 | 3.96727E-06 | 5.18943E-07 | 2.92438E-07 | 2.49142E-07 | 0 |
| 0.000123826 | 0.000242614 | 3.17354E-05 | 1.78838E-05 | 1.5236E-05 | 0 |
| 7.21015E-07 | 1.32238E-06 | 2.07092E-07 | 1.26508E-07 | 1.11051E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.13372E-07 | 1.98501E-07 | 3.48915E-08 | 2.22278E-08 | 1.97932E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.17936E-06 | 2.41985E-06 | 1.01541E-06 | 7.73078E-07 | 7.25668E-07 | 0 |
| 0.000339817 | 0.000377314 | 0.000158328 | 0.000120542 | 0.00011315 | 0 |
| 1.03041E-06 | 1.14411E-06 | 4.80091E-07 | 3.65514E-07 | 3.43098E-07 | 0 |
| 4.82008E-05 | 5.35196E-05 | 2.24578E-05 | 1.70981E-05 | 1.60495E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.44621E-05 | 1.41371E-05 | 9.66429E-06 | 6.82247E-06 | 8.36382E-06 | 0 |
| 1.70371E-06 | 1.66543E-06 | 1.1385E-06 | 8.03725E-07 | 9.85306E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000138038 | 0.000134936 | 9.22435E-05 | 6.51192E-05 | 7.98311E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000804343 | 0.00078627 | 0.000537501 | 0.000379448 | 0.000465174 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media |

| | |
|---|---|
| Model_34 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.37E-05 | 1.22E-03 | 9.07E-04 | 6.15E-04 | 6.13E-04 | 0 |
| Antimony (Sb) | Antimony | Sb | 3.78212E-09 | 1.58E-07 | 1.15E-07 | 8.01E-08 | 8.51E-08 | 0 |
| Arsenic (As) | Arsenic | As | 7.35286E-09 | 2.01E-07 | 1.40E-07 | 1.02E-07 | 1.19E-07 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-10 | 8.05E-08 | 5.89E-08 | 4.37E-08 | 5.30E-08 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-08 | 6.39E-07 | 4.36E-07 | 3.19E-07 | 3.79E-07 | 0 |
| Copper (Cu) | Copper | Cu | 2.98769E-06 | 8.49E-05 | 6.74E-05 | 4.58E-05 | 5.36E-05 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.28E-08 | 9.42E-09 | 7.25E-09 | 9.40E-09 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 8.50292E-11 | 4.04E-08 | 2.99E-08 | 2.15E-08 | 2.47E-08 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 1.04E-12 | 7.68E-13 | 5.91E-13 | 7.65E-13 | 0 |
| Silver (Ag) | Silver | Ag | 2.72421E-09 | 7.05E-08 | 5.11E-08 | 3.82E-08 | 4.68E-08 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.18936E-09 | 2.88E-08 | 2.07E-08 | 1.59E-08 | 2.03E-08 | 0 |
| Uranium (U) | Uranium | U | 1.54562E-09 | 9.50E-09 | 6.54E-09 | 4.55E-09 | 4.67E-09 | 0 |
| Zinc (Zn) | Zinc | Zn | 9.71088E-06 | 1.13E-03 | 8.59E-04 | 6.34E-04 | 8.10E-04 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_34 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.36962E-05 | 0.001216888 | 0.000907282 | 0.00061475 | 0.000612575 | 0 |
| Antimony (Sb) | Antimony | Sb | 9.45531E-06 | 0.000394407 | 0.000288633 | 0.000200323 | 0.000212862 | 0 |
| Arsenic (As) | Arsenic | As | 2.45095E-05 | 0.00066877 | 0.000468315 | 0.000339967 | 0.000396812 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-07 | 8.05324E-05 | 5.85294E-05 | 4.36825E-05 | 5.29544E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-05 | 0.000638965 | 0.000436062 | 0.000319139 | 0.000379001 | 0 |
| Copper (Cu) | Copper | Cu | 3.28318E-05 | 0.000932685 | 0.000740606 | 0.000502828 | 0.000589433 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 6.41189E-07 | 4.71136E-07 | 3.62666E-07 | 4.69803E-07 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 2.83431E-08 | 1.34561E-05 | 9.96503E-06 | 7.178E-06 | 8.22552E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 5.22347E-10 | 3.83813E-10 | 2.95449E-10 | 3.82727E-10 | 0 |
| Silver (Ag) | Silver | Ag | 5.44841E-07 | 1.41024E-05 | 1.02184E-05 | 7.64554E-06 | 9.36008E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 8.49542E-05 | 0.002056032 | 0.001481169 | 0.001135675 | 0.001451355 | 0 |
| Uranium (U) | Uranium | U | 2.57603E-07 | 1.58306E-06 | 1.09007E-06 | 7.58753E-07 | 7.77517E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000202031 | 0.023510936 | 0.01788595 | 0.013211572 | 0.016878622 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0012 | 0.0009 | 0.0006 | 0.0006 | 0 |
| 0 | 0.0004 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0006 | 0.0005 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0006 | 0.0004 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0009 | 0.0007 | 0.0005 | 0.0006 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0020 | 0.0014 | 0.0011 | 0.0014 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0233 | 0.0178 | 0.0131 | 0.0168 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 6.03444E-06 | 1.05656E-05 | 1.85716E-06 | 1.18311E-06 | 1.05353E-06 | 0 |
| 2.41065E-05 | 4.59456E-05 | 6.49604E-06 | 3.8004E-06 | 3.28437E-06 | 0 |
| 5.06204E-07 | 9.91817E-07 | 1.29736E-07 | 7.31096E-08 | 6.22855E-08 | 0 |
| 3.09564E-05 | 6.06536E-05 | 7.93386E-06 | 4.47095E-06 | 3.80901E-06 | 0 |
| 1.80254E-07 | 3.30595E-07 | 5.1773E-08 | 3.16269E-08 | 2.77627E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.83431E-08 | 4.96254E-08 | 8.72287E-09 | 5.55695E-09 | 4.9483E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.44841E-07 | 6.04962E-07 | 2.53853E-07 | 1.9327E-07 | 1.81417E-07 | 0 |
| 8.49542E-05 | 9.43086E-05 | 3.9582E-05 | 3.01355E-05 | 2.82874E-05 | 0 |
| 2.57603E-07 | 2.86028E-07 | 1.20023E-07 | 9.13785E-08 | 8.57746E-08 | 0 |
| 1.20502E-05 | 1.33799E-05 | 5.61445E-06 | 4.27452E-06 | 4.01238E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.42087E-06 | 3.37047E-06 | 2.28017E-06 | 1.59136E-06 | 1.98094E-06 | 0 |
| 4.02998E-07 | 3.97061E-07 | 2.68617E-07 | 1.87472E-07 | 2.33367E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.26515E-05 | 3.21705E-05 | 2.17638E-05 | 1.51893E-05 | 1.89077E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.00019026 | 0.000187457 | 0.000126817 | 8.85075E-05 | 0.000110175 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_35 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.55E-02 | 1.34E-01 | 1.03E-01 | 6.77E-02 | 7.13E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42279E-05 | 1.11E-04 | 7.84E-05 | 5.36E-05 | 6.30E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103212 | 1.49E-04 | 9.91E-05 | 6.76E-05 | 8.08E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.30905E-06 | 6.29E-05 | 4.70E-05 | 3.18E-05 | 3.41E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.88011E-05 | 1.95E-03 | 1.43E-03 | 1.01E-03 | 1.14E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.00017718 | 3.30E-03 | 2.41E-03 | 1.71E-03 | 1.97E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 3.88E-04 | 3.58E-04 | 2.00E-04 | 2.26E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17591E-06 | 2.07E-05 | 2.38E-05 | 1.10E-05 | 1.22E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 3.82E-04 | 1.26E-03 | 2.21E-04 | 2.06E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.52757E-06 | 2.68E-05 | 2.35E-05 | 1.37E-05 | 1.55E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.77977E-05 | 1.82E-04 | 3.47E-04 | 1.00E-04 | 1.07E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412421 | 7.60E-04 | 5.69E-04 | 3.73E-04 | 4.06E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00114879 | 1.07E-01 | 7.90E-02 | 6.00E-02 | 7.67E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_35 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025685087 | 0.133752935 | 0.103350897 | 0.067770547 | 0.071329469 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210613817 | 0.277588972 | 0.196195616 | 0.133998937 | 0.157536183 | 0 |
| Arsenic (As) | Arsenic | As | 0.344286913 | 0.497813828 | 0.33057265 | 0.225586096 | 0.269532869 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004313333 | 0.062931059 | 0.046996922 | 0.031819481 | 0.034130859 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.099250747 | **1.947551592** | **1.429241983** | **1.007287107** | **1.139073244** | 0 |
| Copper (Cu) | Copper | Cu | 0.001948765 | 0.036312294 | 0.026507419 | 0.018792497 | 0.021598415 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00742452 | 0.019406914 | 0.017888083 | 0.009979903 | 0.011281651 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058981 | 0.006900254 | 0.00794739 | 0.003651218 | 0.00405466 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.191150795 | 0.628346952 | 0.110585379 | 0.103160623 | 0 |
| Silver (Ag) | Silver | Ag | 0.001906471 | 0.005353949 | 0.004708375 | 0.002733006 | 0.003102874 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985640265** | **13.01190727** | **24.77390585** | **7.145269916** | **7.647867828** | 0 |
| Uranium (U) | Uranium | U | 0.068737403 | 0.126595795 | 0.09485886 | 0.062086964 | 0.067747757 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.023968103 | **2.232182517** | **1.646300458** | **1.250971481** | **1.598338974** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1087 | 0.0862 | 0.0557 | 0.0565 | 0 |
| 0 | 0.0688 | 0.0568 | 0.0357 | 0.0372 | 0 |
| 0 | 0.1339 | 0.1119 | 0.0722 | 0.0833 | 0 |
| 0 | 0.0578 | 0.0445 | 0.0301 | 0.0321 | 0 |
| 0 | **1.8223** | **1.3742** | **0.9695** | **1.0944** | 0 |
| 0 | 0.0338 | 0.0255 | 0.0181 | 0.0208 | 0 |
| 0 | 0.0122 | 0.0129 | 0.0065 | 0.0070 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0058 | 0.0073 | 0.0032 | 0.0035 | 0 |
| 0 | 0.1910 | **0.6282** | 0.1105 | 0.1031 | 0 |
| 0 | 0.0035 | 0.0035 | 0.0019 | 0.0020 | 0 |
| 0 | **11.0515** | **23.4763** | **6.2255** | **6.5351** | 0 |
| 0 | 0.0593 | 0.0491 | 0.0297 | 0.0282 | 0 |
| 0 | **2.2072** | **1.6328** | **1.2410** | **1.5873** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 6.05604E-06 | 6.72431E-06 | 2.82164E-06 | 2.14824E-06 | 2.01649E-06 | 0 |
| 0.003760768 | 0.006584658 | 0.001157414 | 0.000737336 | 0.000656577 | 0 |
| 0.029265281 | 0.055777894 | 0.007886185 | 0.004613679 | 0.003987219 | 0 |
| 0.000932622 | 0.001827307 | 0.000239023 | 0.000134696 | 0.000114754 | 0 |
| 0.028350313 | 0.055547401 | 0.007265939 | 0.004094555 | 0.003488343 | 0 |
| 0.000752482 | 0.001380091 | 0.00021613 | 0.000132029 | 0.000115897 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.93392E-05 | 6.88783E-05 | 1.2107E-05 | 7.71265E-06 | 6.86808E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000190717 | 0.000211762 | 8.8859E-05 | 6.76522E-05 | 6.35033E-05 | 0 |
| 0.145043557 | 0.161048637 | 0.067578962 | 0.051450806 | 0.048295486 | 0 |
| 0.000676891 | 0.000751583 | 0.000315378 | 0.000240111 | 0.000225386 | 0 |
| 0.011139203 | 0.012649103 | 0.005307796 | 0.004041056 | 0.00379323 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.00742452 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000160091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001714798 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 6.10009E-05 | 0.000114372 | 0.000100207 | 5.94125E-05 | 5.33846E-05 | 0 |
| 4.41213E-05 | 8.27245E-05 | 7.2479E-05 | 4.29725E-05 | 3.86126E-05 | 0 |
| 0.000246028 | 0.000461285 | 0.00040155 | 0.000239621 | 0.00021531 | 0 |
| 4.28392E-06 | 8.03205E-06 | 7.0372E-06 | 4.17237E-06 | 3.74905E-06 | 0 |
| 0.000449687 | 0.000843133 | 0.00073871 | 0.000437978 | 0.000393541 | 0 |
| 1.73399E-06 | 3.25111E-06 | 2.84646E-06 | 1.68884E-06 | 1.51749E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.45901E-07 | 6.48541E-07 | 5.68219E-07 | 3.36894E-07 | 3.02714E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 9.56576E-07 | 1.79352E-06 | 1.57139E-06 | 9.31668E-07 | 8.37143E-07 | 0 |
| 8.77741E-05 | 0.00016457 | 0.000144188 | 8.54885E-05 | 7.6815E-05 | 0 |
| 6.19848E-07 | 1.16217E-06 | 1.01824E-06 | 6.03707E-07 | 5.42456E-07 | 0 |
| 3.49688E-05 | 6.55642E-05 | 5.7444E-05 | 3.40583E-05 | 3.06028E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project** | **Scenario** |
| **Site Preparation and Construction** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_36 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.04E-03 | 1.15E-01 | 9.02E-02 | 5.85E-02 | 6.00E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99436E-05 | 4.74E-05 | 3.59E-05 | 2.34E-05 | 2.63E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45321E-05 | 6.64E-05 | 4.91E-05 | 3.24E-05 | 3.82E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03182E-06 | 5.90E-05 | 4.51E-05 | 3.05E-05 | 3.26E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37521E-05 | 1.85E-03 | 1.39E-03 | 9.78E-04 | 1.10E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28319E-05 | 3.13E-03 | 2.34E-03 | 1.66E-03 | 1.91E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.78E-04 | 2.82E-04 | 1.46E-04 | 1.60E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.5282E-07 | 1.83E-05 | 2.23E-05 | 9.83E-06 | 1.08E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69203E-08 | 3.82E-04 | 1.26E-03 | 2.21E-04 | 2.06E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26649E-06 | 1.96E-05 | 1.88E-05 | 1.03E-05 | 1.15E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60263E-06 | 1.61E-04 | 3.33E-04 | 9.02E-05 | 9.52E-05 | 0 |
| Uranium (U) | Uranium | U | 9.7609E-05 | 4.52E-04 | 3.59E-04 | 2.24E-04 | 2.25E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279096 | 1.06E-01 | 7.85E-02 | 5.97E-02 | 7.63E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_36 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006052818 | 0.114664571 | 0.09024456 | 0.058494198 | 0.060025459 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.045869961 | 0.11862431 | 0.089680136 | 0.058608431 | 0.065739045 | 0 |
| Arsenic (As) | Arsenic | As | 0.081835084 | 0.221291801 | 0.163635918 | 0.108088002 | 0.127453809 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032889 | 0.059040888 | 0.045088432 | 0.030494036 | 0.032551786 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023864473 | **1.852809855** | **1.387267564** | 0.976404826 | **1.105068181** | 0 |
| Copper (Cu) | Copper | Cu | 0.009471113 | 0.034385475 | 0.025733269 | 0.016280126 | 0.020983136 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.013881543 | 0.014097251 | 0.007294365 | 0.008004817 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251026 | 0.006089268 | 0.007417448 | 0.003276489 | 0.003599413 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.191034478 | 0.628268638 | 0.110531014 | 0.103092465 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453538 | 0.003917158 | 0.003765006 | 0.002061305 | 0.002297787 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471638196 | **11.52078404** | **23.78338147** | **6.4408745** | **6.799274425** | 0 |
| Uranium (U) | Uranium | U | 0.016268315 | 0.075362332 | 0.059871359 | 0.037288348 | 0.037539872 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005823232 | **2.213309975** | **1.636073257** | **1.243378877** | **1.589936045** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1087 | 0.0862 | 0.0557 | 0.0565 | 0 |
| 0 | 0.0688 | 0.0568 | 0.0357 | 0.0372 | 0 |
| 0 | 0.1339 | 0.1119 | 0.0722 | 0.0833 | 0 |
| 0 | 0.0578 | 0.0445 | 0.0301 | 0.0321 | 0 |
| 0 | **1.8223** | **1.3742** | **0.9695** | **1.0944** | 0 |
| 0 | 0.0338 | 0.0255 | 0.0181 | 0.0208 | 0 |
| 0 | 0.0122 | 0.0129 | 0.0065 | 0.0070 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0058 | 0.0073 | 0.0032 | 0.0035 | 0 |
| 0 | 0.1910 | **0.6282** | 0.1105 | 0.1031 | 0 |
| 0 | 0.0035 | 0.0035 | 0.0019 | 0.0020 | 0 |
| 0 | **11.0515** | **23.4763** | **6.2255** | **6.5351** | 0 |
| 0 | 0.0593 | 0.0491 | 0.0297 | 0.0282 | 0 |
| 0 | **2.2072** | **1.6328** | **1.2410** | **1.5873** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.51401E-06 | 1.68108E-06 | 7.05411E-07 | 5.3706E-07 | 5.04124E-07 | 0 |
| 0.000940192 | 0.001646164 | 0.000289354 | 0.000184334 | 0.000164144 | 0 |
| 0.00731632 | 0.013944473 | 0.001971546 | 0.00115342 | 0.000996805 | 0 |
| 0.000233156 | 0.000456827 | 5.97557E-05 | 3.3674E-05 | 2.86884E-05 | 0 |
| 0.0070875 78 | 0.01388685 | 0.001816485 | 0.001023639 | 0.000872086 | 0 |
| 0.00018812 | 0.000345023 | 5.40325E-05 | 3.30072E-05 | 2.89743E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.83481E-06 | 1.72196E-05 | 3.02676E-06 | 1.92821E-06 | 1.71702E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.76791E-05 | 5.29404E-05 | 2.22148E-05 | 1.69131E-05 | 1.58758E-05 | 0 |
| 0.036260889 | 0.040262159 | 0.016894741 | 0.012862701 | 0.012073871 | 0 |
| 0.000169223 | 0.000187896 | 7.88446E-05 | 6.00278E-05 | 5.63465E-05 | 0 |
| 0.002848008 | 0.003162276 | 0.001326949 | 0.001010264 | 0.000948308 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379586 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.52602E-05 | 2.85931E-05 | 2.50518E-05 | 1.48831E-05 | 1.33462E-05 | 0 |
| 1.10303E-05 | 2.06811E-05 | 1.81197E-05 | 1.07431E-05 | 9.65314E-06 | 0 |
| 6.15069E-05 | 0.000115321 | 0.000101039 | 5.99054E-05 | 5.38275E-05 | 0 |
| 1.07098E-06 | 2.00801E-06 | 1.75932E-06 | 1.04309E-06 | 9.37261E-07 | 0 |
| 0.000112422 | 0.000210783 | 0.000184677 | 0.000109494 | 9.83863E-05 | 0 |
| 4.33498E-07 | 8.12778E-07 | 7.12115E-07 | 4.2221E-07 | 3.79373E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 8.64753E-08 | 1.62135E-07 | 1.42056E-07 | 8.42236E-08 | 7.56784E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.39144E-07 | 4.48379E-07 | 3.92847E-07 | 2.32917E-07 | 2.09286E-07 | 0 |
| 2.19435E-05 | 4.11426E-05 | 3.60474E-05 | 2.13721E-05 | 1.92038E-05 | 0 |
| 1.54962E-07 | 2.90543E-07 | 2.54559E-07 | 1.50927E-07 | 1.35614E-07 | 0 |
| 8.74221E-06 | 1.6391E-05 | 1.43615E-05 | 8.51457E-06 | 7.6507E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_37 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 1.36E-01 | 1.05E-01 | 6.89E-02 | 7.25E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42503E-05 | 1.12E-04 | 7.90E-05 | 5.39E-05 | 6.33E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103236 | 1.50E-04 | 9.95E-05 | 6.78E-05 | 8.10E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31081E-06 | 6.49E-05 | 4.85E-05 | 3.28E-05 | 3.51E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.16818E-05 | 1.84E-03 | 1.35E-03 | 9.53E-04 | 1.08E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000177235 | 3.34E-03 | 2.44E-03 | 1.73E-03 | 1.99E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.07E-04 | 3.76E-04 | 2.10E-04 | 2.38E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17626E-06 | 2.12E-05 | 2.46E-05 | 1.12E-05 | 1.24E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.1219E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53752E-06 | 2.75E-05 | 2.43E-05 | 1.40E-05 | 1.59E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78022E-05 | 2.07E-04 | 3.77E-04 | 1.14E-04 | 1.24E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412426 | 7.78E-04 | 5.85E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00115077 | 1.08E-01 | 7.95E-02 | 6.04E-02 | 7.72E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_37 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025629245 | 0.135954596 | 0.105264887 | 0.068926672 | 0.07253469 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210708297 | 0.279237575 | 0.197699047 | 0.134837614 | 0.158392415 | 0 |
| Arsenic (As) | Arsenic | As | 0.344489639 | 0.499436622 | 0.332375302 | 0.226395016 | 0.270401631 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004319218 | 0.064910894 | 0.048552607 | 0.033818945 | 0.035108487 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.092141162 | **1.845859747** | **1.352861456** | 0.953512815 | **1.078225406** | 0 |
| Copper (Cu) | Copper | Cu | 0.001950215 | 0.036705369 | 0.026820637 | 0.019004936 | 0.021846852 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424526 | 0.020356666 | 0.018794904 | 0.01049615 | 0.011675263 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.0010591 | 0.007053626 | 0.00821497 | 0.003735523 | 0.004142962 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156095 | 0.201209385 | 0.6614314 | 0.116405422 | 0.108588778 | 0 |
| Silver (Ag) | Silver | Ag | 0.001910418 | 0.005495502 | 0.004863771 | 0.002809728 | 0.003183981 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.986347135** | **14.81962666** | **26.91036887** | **8.166319154** | **8.889971893** | 0 |
| Uranium (U) | Uranium | U | 0.068739019 | 0.129697729 | 0.097426077 | 0.063641912 | 0.069219415 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024034817 | **2.245841854** | **1.657013043** | **1.258648706** | **1.608131808** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1351 | 0.1135 | 0.0729 | 0.0840 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.7274** | **1.3026** | **0.9191** | **1.0378** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0131 | 0.0138 | 0.0070 | 0.0076 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2011** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **12.8582** | **25.6119** | **7.2460** | **7.7767** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2208** | **1.6432** | **1.2486** | **1.5970** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 4.87156E-05 | 5.40912E-05 | 2.26977E-05 | 1.72807E-05 | 1.62209E-05 | 0 |
| 0.003781658 | 0.006221234 | 0.001163843 | 0.000741432 | 0.000660225 | 0 |
| 0.029345994 | 0.055931726 | 0.007907935 | 0.004626404 | 0.003998216 | 0 |
| 0.000934385 | 0.001830762 | 0.000239475 | 0.000134951 | 0.000114971 | 0 |
| 0.028446669 | 0.055736194 | 0.007290635 | 0.004108471 | 0.003500199 | 0 |
| 0.000753085 | 0.001381197 | 0.000216303 | 0.000132134 | 0.00011599 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94271E-05 | 6.90322E-05 | 1.21341E-05 | 7.73009E-06 | 6.88343E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192706 | 0.00021397 | 8.97858E-05 | 6.83579E-05 | 6.41657E-05 | 0 |
| 0.145365919 | 0.16140657 | 0.067729158 | 0.051565156 | 0.048402823 | 0 |
| 0.000677798 | 0.000752591 | 0.000315801 | 0.000240433 | 0.000225688 | 0 |
| 0.011433279 | 0.012694904 | 0.005327015 | 0.004055688 | 0.003806965 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206843981** | **0.202196489** | 0.138223118 | 0.097578439 | 0.119623711 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.063235106 | 0.061814303 | 0.042256746 | 0.029831097 | 0.036570646 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.007424526 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019325 | 0.000996422 | 0.000681162 | 0.000480866 | 0.000589504 | 0 |
| 0.000160095 | 0.000154463 | 0.000103898 | 7.20484E-05 | 9.04555E-05 | 0 |
| 0.001714798 | 0.001676269 | 0.001146911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 6.24991E-05 | 0.000117182 | 0.000102669 | 6.08717E-05 | 5.46958E-05 | 0 |
| 8.26575E-05 | 0.000154977 | 0.000135783 | 8.05052E-05 | 7.23373E-05 | 0 |
| 0.000368042 | 0.000690054 | 0.00060459 | 0.000358459 | 0.00032209 | 0 |
| 8.40571E-06 | 1.57601E-05 | 1.38082E-05 | 8.18683E-06 | 7.35621E-06 | 0 |
| 0.000499386 | 0.000861318 | 0.000754643 | 0.000447424 | 0.000402029 | 0 |
| 2.58101E-06 | 4.83922E-06 | 4.23988E-06 | 2.51381E-06 | 2.25876E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.47846E-07 | 6.52187E-07 | 5.71413E-07 | 3.38788E-07 | 3.04415E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.91433E-06 | 5.46417E-06 | 4.78743E-06 | 2.83844E-06 | 2.55046E-06 | 0 |
| 0.000472282 | 0.000885496 | 0.000775827 | 0.000459984 | 0.000413315 | 0 |
| 1.32906E-06 | 2.49189E-06 | 2.18327E-06 | 1.29445E-06 | 1.16312E-06 | 0 |
| 6.0433E-05 | 0.000113308 | 9.92744E-05 | 5.88594E-05 | 5.28876E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_38 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 1.17E-01 | 9.21E-02 | 5.96E-02 | 6.12E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.9949E-05 | 4.81E-05 | 3.64E-05 | 2.38E-05 | 2.66E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45381E-05 | 6.67E-05 | 4.95E-05 | 3.26E-05 | 3.84E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03226E-06 | 6.10E-05 | 4.66E-05 | 3.15E-05 | 3.35E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.20693E-05 | 1.76E-03 | 1.31E-03 | 9.27E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28456E-05 | 3.16E-03 | 2.37E-03 | 1.68E-03 | 1.93E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.97E-04 | 3.00E-04 | 1.56E-04 | 1.72E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52906E-07 | 1.87E-05 | 2.31E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69225E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26898E-06 | 2.03E-05 | 1.96E-05 | 1.07E-05 | 1.19E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60376E-06 | 1.87E-04 | 3.63E-04 | 1.04E-04 | 1.13E-04 | 0 |
| Uranium (U) | Uranium | U | 9.76103E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00027959 | 1.07E-01 | 7.90E-02 | 6.00E-02 | 7.68E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_38 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006063858 | 0.1168695 | 0.092141798 | 0.05963788 | 0.061219043 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.045893109 | 0.120165194 | 0.09111337 | 0.059403208 | 0.066551778 | 0 |
| Arsenic (As) | Arsenic | As | 0.081885766 | 0.222627644 | 0.165275932 | 0.108798252 | 0.128234238 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.00103436 | 0.061012337 | 0.0466387 | 0.031490298 | 0.033526545 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.022184193 | **1.756334642** | **1.314540747** | 0.927222996 | **1.04738973** | 0 |
| Copper (Cu) | Copper | Cu | 0.004471476 | 0.034776529 | 0.026045313 | 0.018471867 | 0.021230947 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.014829294 | 0.015004073 | 0.007809612 | 0.008598428 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251056 | 0.006242501 | 0.007684991 | 0.003360769 | 0.003687689 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84612E-05 | 0.201093064 | 0.661353084 | 0.116351056 | 0.108520619 | 0 |
| Silver (Ag) | Silver | Ag | 0.000454525 | 0.004058302 | 0.003917295 | 0.002136068 | 0.002377112 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471814913 | **13.32769628** | **25.91925812** | **7.461566104** | **8.041045612** | 0 |
| Uranium (U) | Uranium | U | 0.01626872 | 0.078462513 | 0.062437385 | 0.038842536 | 0.039010838 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00583991 | **2.226899153** | **1.646546055** | **1.251026527** | **1.599701864** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1351 | 0.1135 | 0.0729 | 0.0840 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.7274** | **1.3026** | **0.9191** | **1.0378** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0131 | 0.0138 | 0.0070 | 0.0076 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2011** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **12.8582** | **25.6119** | **7.2460** | **7.7767** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2208** | **1.6432** | **1.2486** | **1.5970** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.21789E-05 | 1.35228E-05 | 5.67441E-06 | 4.32018E-06 | 4.05524E-06 | 0 |
| 0.000945415 | 0.001655309 | 0.000290961 | 0.000185358 | 0.000165056 | 0 |
| 0.007336498 | 0.013982932 | 0.001976984 | 0.001156601 | 0.000995554 | 0 |
| 0.000233596 | 0.00045769 | 5.98687E-05 | 3.37376E-05 | 2.87427E-05 | 0 |
| 0.007111667 | 0.013934048 | 0.001822659 | 0.001027118 | 0.00087505 | 0 |
| 0.000188271 | 0.000345299 | 5.40758E-05 | 3.30336E-05 | 2.89975E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85679E-06 | 1.72581E-05 | 3.03352E-06 | 1.93252E-06 | 1.72086E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.81764E-05 | 5.34929E-05 | 2.24465E-05 | 1.70895E-05 | 1.60414E-05 | 0 |
| 0.03634148 | 0.040351642 | 0.016932289 | 0.012891289 | 0.012100706 | 0 |
| 0.000169449 | 0.000188148 | 7.89502E-05 | 6.01082E-05 | 5.6422E-05 | 0 |
| 0.00285832 | 0.003173726 | 0.001331754 | 0.001013922 | 0.000951741 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.04892703 | 0.048206266 | 0.032612161 | 0.022760486 | 0.028332495 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.014957679 | 0.014737332 | 0.009969995 | 0.0069582 | 0.008661641 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241112 | 0.00023756 | 0.000160712 | 0.000112163 | 0.000139622 | 0 |
| 3.84612E-05 | 3.81424E-05 | 2.55817E-05 | 1.76819E-05 | 2.2296E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379585 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.56248E-05 | 2.92954E-05 | 2.56671E-05 | 1.52179E-05 | 1.36739E-05 | 0 |
| 2.06644E-05 | 3.87443E-05 | 3.39458E-05 | 2.01263E-05 | 1.80843E-05 | 0 |
| 9.20106E-05 | 0.000172513 | 0.000151148 | 8.96147E-05 | 8.05226E-05 | 0 |
| 2.10143E-06 | 3.94003E-06 | 3.45206E-06 | 2.04671E-06 | 1.83905E-06 | 0 |
| 0.000114847 | 0.000215329 | 0.000188661 | 0.000111856 | 0.000100507 | 0 |
| 6.45254E-07 | 1.20981E-06 | 1.05997E-06 | 6.28452E-07 | 5.6469E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 8.69614E-08 | 1.63047E-07 | 1.42853E-07 | 8.4697E-08 | 7.61038E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 7.28583E-07 | 1.36604E-06 | 1.19686E-06 | 7.09611E-07 | 6.37615E-07 | 0 |
| 0.000111807 | 0.000221374 | 0.000193957 | 0.000114996 | 0.000103329 | 0 |
| 3.32265E-07 | 6.22973E-07 | 5.45818E-07 | 3.23613E-07 | 2.9078E-07 | 0 |
| 1.51082E-05 | 2.83269E-05 | 2.48186E-05 | 1.47148E-05 | 1.32219E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_39 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 1.36E-01 | 1.05E-01 | 6.89E-02 | 7.25E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42369E-05 | 1.12E-04 | 7.90E-05 | 5.39E-05 | 6.33E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103239 | 1.50E-04 | 9.95E-05 | 6.78E-05 | 8.10E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31094E-06 | 6.49E-05 | 4.85E-05 | 3.28E-05 | 3.51E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.89112E-05 | 2.04E-03 | 1.50E-03 | 1.06E-03 | 1.19E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.00017724 | 3.34E-03 | 2.44E-03 | 1.73E-03 | 1.99E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17621E-06 | 2.11E-05 | 2.46E-05 | 1.12E-05 | 1.24E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53799E-06 | 2.75E-05 | 2.43E-05 | 1.40E-05 | 1.59E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78024E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412427 | 7.78E-04 | 5.85E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001150937 | 1.08E-01 | 7.95E-02 | 6.04E-02 | 7.72E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_39 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025633763 | 0.13606571 | 0.105314919 | 0.068961068 | 0.072569181 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.2106363 | 0.279141898 | 0.197617815 | 0.134788015 | 0.158343209 | 0 |
| Arsenic (As) | Arsenic | As | 0.344375328 | 0.499059001 | 0.33206072 | 0.226184411 | 0.270173419 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004315225 | 0.064905123 | 0.04854713 | 0.032815867 | 0.035105969 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.099360516 | **2.038715948** | **1.49792062** | **1.05563295** | **1.193479255** | 0 |
| Copper (Cu) | Copper | Cu | 0.001949427 | 0.036703854 | 0.026819252 | 0.019004041 | 0.021845858 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00742452 | 0.020048452 | 0.015568433 | 0.010320818 | 0.011649433 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001059082 | 0.007049586 | 0.008211908 | 0.003733209 | 0.004139917 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.201203234 | 0.661412376 | 0.11640187 | 0.108585369 | 0 |
| Silver (Ag) | Silver | Ag | 0.001908555 | 0.005496343 | 0.004860898 | 0.002808081 | 0.003182581 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985971371** | **13.57801329** | **25.99794386** | **7.464069008** | **7.980420009** | 0 |
| Uranium (U) | Uranium | U | 0.068738371 | 0.12969661 | 0.097425045 | 0.063641321 | 0.069218911 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024012808 | **2.246266815** | **1.657273653** | **1.258854767** | **1.608403922** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1349 | 0.1134 | 0.0728 | 0.0839 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.9132** | **1.4428** | **1.0178** | **1.1488** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **11.6173** | **24.7001** | **6.5442** | **6.8675** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2212** | **1.6435** | **1.2488** | **1.5973** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 0.003783284 | 0.006624081 | 0.001164344 | 0.000741751 | 0.000660508 | 0 |
| 0.02935386 | 0.055946719 | 0.007910055 | 0.004627644 | 0.003999288 | 0 |
| 0.000934516 | 0.001831019 | 0.000239508 | 0.00013497 | 0.000114987 | 0 |
| 0.028464019 | 0.055763136 | 0.007294159 | 0.004110457 | 0.003501891 | 0 |
| 0.000753144 | 0.001381305 | 0.00021632 | 0.000132145 | 0.000115999 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94399E-05 | 6.90546E-05 | 1.2138E-05 | 7.73259E-06 | 6.88565E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192801 | 0.000214076 | 8.98302E-05 | 6.83916E-05 | 6.41974E-05 | 0 |
| 0.14537466 | 0.161416275 | 0.06773323 | 0.051568257 | 0.048405734 | 0 |
| 0.00067786 | 0.000752669 | 0.00031583 | 0.000240455 | 0.000225708 | 0 |
| 0.011436759 | 0.012698768 | 0.005328636 | 0.004056923 | 0.003808124 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775603** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.00742452 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000160091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001747498 | 0.001676269 | 0.001146911 | 0.000808964 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 6.09483E-05 | 0.000114274 | 0.000100121 | 5.93612E-05 | 5.33386E-05 | 0 |
| 4.40888E-05 | 8.26634E-05 | 7.24255E-05 | 4.29407E-05 | 3.85841E-05 | 0 |
| 0.000245865 | 0.00046098 | 0.000403887 | 0.000239463 | 0.000215167 | 0 |
| 4.28186E-06 | 8.0282E-06 | 7.0339E-06 | 4.17037E-06 | 3.74725E-06 | 0 |
| 0.000449349 | 0.000842499 | 0.000738155 | 0.000437649 | 0.000393246 | 0 |
| 1.73369E-06 | 3.25054E-06 | 2.84796E-06 | 1.68854E-06 | 1.51723E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.45661E-07 | 6.4809E-07 | 5.67823E-07 | 3.3666E-07 | 3.02503E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 9.55855E-07 | 1.79216E-06 | 1.5702E-06 | 9.30965E-07 | 8.36511E-07 | 0 |
| 8.77769E-05 | 0.000164576 | 0.000144193 | 8.54913E-05 | 7.68175E-05 | 0 |
| 6.1968E-07 | 1.16186E-06 | 1.01796E-06 | 6.03644E-07 | 5.42309E-07 | 0 |
| 3.49448E-05 | 6.55192E-05 | 5.74046E-05 | 3.40349E-05 | 3.05818E-05 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_40 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 1.17E-01 | 9.22E-02 | 5.97E-02 | 6.12E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99458E-05 | 4.81E-05 | 3.64E-05 | 2.38E-05 | 2.66E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45387E-05 | 6.67E-05 | 4.95E-05 | 3.26E-05 | 3.84E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 6.10E-05 | 4.66E-05 | 3.15E-05 | 3.35E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37796E-05 | 1.94E-03 | 1.46E-03 | 1.03E-03 | 1.16E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28469E-05 | 3.16E-03 | 2.37E-03 | 1.68E-03 | 1.93E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52895E-07 | 1.87E-05 | 2.30E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69203E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 2.03E-05 | 1.96E-05 | 1.07E-05 | 1.19E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279632 | 1.07E-01 | 7.90E-02 | 6.01E-02 | 7.68E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_40 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006064987 | 0.116936841 | 0.09219162 | 0.059671794 | 0.061253037 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049875582 | 0.120147714 | 0.091097179 | 0.059394222 | 0.066543145 | 0 |
| Arsenic (As) | Arsenic | As | 0.081857188 | 0.222410584 | 0.165106287 | 0.108675662 | 0.128085415 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001033362 | 0.061012172 | 0.046638278 | 0.031490218 | 0.033526722 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023891915 | **1.943812885** | **1.455925432** | **1.026738989** | **1.159464253** | 0 |
| Copper (Cu) | Copper | Cu | 0.004471279 | 0.034776125 | 0.02604496 | 0.018471583 | 0.021230503 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.01452108 | 0.014777602 | 0.00763528 | 0.008372598 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251051 | 0.006238468 | 0.007681943 | 0.003358465 | 0.003684556 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.201086916 | 0.661334062 | 0.116347505 | 0.108517211 | 0 |
| Silver (Ag) | Silver | Ag | 0.000454059 | 0.004057818 | 0.003916802 | 0.002135826 | 0.002376974 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471720972 | **12.08661432** | **25.00730378** | **6.759594501** | **7.131743919** | 0 |
| Uranium (U) | Uranium | U | 0.016268558 | 0.07846234 | 0.062437206 | 0.038842447 | 0.039010784 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005834408 | **2.227297658** | **1.648830852** | **1.251250928** | **1.599989838** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1349 | 0.1134 | 0.0728 | 0.0839 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.9132** | **1.4428** | **1.0178** | **1.1488** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **11.6173** | **24.7001** | **6.5442** | **6.8675** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2212** | **1.6435** | **1.2488** | **1.5973** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000188286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807027 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379586 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.52371E-05 | 2.85685E-05 | 2.50302E-05 | 1.48403E-05 | 1.33346E-05 | 0 |
| 1.10222E-05 | 2.06659E-05 | 1.81064E-05 | 1.07352E-05 | 9.64602E-06 | 0 |
| 6.14662E-05 | 0.000115245 | 0.000100972 | 5.98657E-05 | 5.37918E-05 | 0 |
| 1.07047E-06 | 2.00705E-06 | 1.75848E-06 | 1.04259E-06 | 9.36813E-07 | 0 |
| 0.000112337 | 0.000210625 | 0.000184539 | 0.000109412 | 9.83114E-05 | 0 |
| 4.33421E-07 | 8.12635E-07 | 7.1199E-07 | 4.22135E-07 | 3.79306E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 8.64151E-08 | 1.62022E-07 | 1.41956E-07 | 8.41649E-08 | 7.56257E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.38964E-07 | 4.4804E-07 | 3.9259E-07 | 2.32741E-07 | 2.09128E-07 | 0 |
| 2.19442E-05 | 4.11439E-05 | 3.60482E-05 | 2.13728E-05 | 1.92044E-05 | 0 |
| 1.5492E-07 | 2.90464E-07 | 2.5449E-07 | 1.50886E-07 | 1.35577E-07 | 0 |
| 8.73621E-06 | 1.63798E-05 | 1.43511E-05 | 8.50873E-06 | 7.64545E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_41 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 6.09E-02 | 4.89E-02 | 3.08E-02 | 3.46E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42427E-05 | 1.07E-04 | 7.53E-05 | 5.13E-05 | 6.06E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103239 | 1.43E-04 | 9.45E-05 | 6.41E-05 | 7.67E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31094E-06 | 6.31E-05 | 4.72E-05 | 3.18E-05 | 3.39E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.33899E-05 | 1.86E-03 | 1.36E-03 | 9.60E-04 | 1.08E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000189801 | 3.36E-03 | 2.46E-03 | 1.74E-03 | 2.00E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.000148488 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17526E-06 | 1.90E-05 | 2.30E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12084E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53799E-06 | 2.60E-05 | 2.32E-05 | 1.32E-05 | 1.49E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78024E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412427 | 7.78E-04 | 5.84E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001189546 | 8.71E-02 | 6.43E-02 | 4.88E-02 | 6.23E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_41 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025572815 | 0.060897577 | 0.048946249 | 0.030811971 | 0.034550669 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210611368 | 0.266476924 | 0.188149087 | 0.12821838 | 0.151390681 | 0 |
| Arsenic (As) | Arsenic | As | 0.34417328 | 0.476063401 | 0.314955734 | 0.213795183 | 0.255769066 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004312346 | 0.063059124 | 0.047181749 | 0.031803941 | 0.033879571 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.093432538 | **1.858926561** | **1.362777063** | 0.95985719 | **1.084416695** | 0 |
| Copper (Cu) | Copper | Cu | 0.002086747 | 0.036939019 | 0.027035897 | 0.019129295 | 0.022007745 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424409 | 0.020047672 | 0.018567803 | 0.010203392 | 0.011648907 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058469 | 0.006336444 | 0.007681266 | 0.003351766 | 0.003703054 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156042 | 0.201140841 | 0.661207276 | 0.116365774 | 0.108551696 | 0 |
| Silver (Ag) | Silver | Ag | 0.001907687 | 0.0051960111 | 0.004638949 | 0.002842334 | 0.002978773 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985950667** | **13.574994** | **25.99571833** | **7.46236893** | **7.978241104** | 0 |
| Uranium (U) | Uranium | U | 0.068738065 | 0.129678598 | 0.097411481 | 0.063532126 | 0.069209634 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024787473 | **1.814503714** | **1.340235058** | **1.016132786** | **1.297871909** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 0.003783284 | 0.006240481 | 0.001164344 | 0.000741751 | 0.000660508 | 0 |
| 0.02935386 | 0.055946719 | 0.007910055 | 0.004627644 | 0.003999288 | 0 |
| 0.000934516 | 0.001831019 | 0.000239508 | 0.00013497 | 0.000114987 | 0 |
| 0.028464419 | 0.055763136 | 0.007294159 | 0.004110457 | 0.003501891 | 0 |
| 0.000753144 | 0.001381305 | 0.00021632 | 0.000132145 | 0.000115999 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94399E-05 | 6.90546E-05 | 1.2138E-05 | 7.73259E-06 | 6.88565E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192801 | 0.000214076 | 8.98302E-05 | 6.83916E-05 | 6.41974E-05 | 0 |
| 0.14537466 | 0.161416275 | 0.06773323 | 0.051568257 | 0.048405734 | 0 |
| 0.00067786 | 0.000752669 | 0.00031583 | 0.000240455 | 0.000225708 | 0 |
| 0.011436759 | 0.012698768 | 0.005328636 | 0.004056923 | 0.003808124 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206823389** | **0.20217636** | 0.138209358 | 0.097568725 | 0.119611802 | 0 |
| **0.314777307** | **0.307704705** | **0.21034937** | 0.148495876 | 0.182044598 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.064929474 | 0.0634706 | 0.043389004 | 0.030630413 | 0.037550547 | 0 |
| 0.001332587 | 0.001302645 | 0.000890499 | 0.000628646 | 0.000770673 | 0 |
| 0.007424409 | 0.007257593 | 0.004961348 | 0.003502457 | 0.004293745 | 0 |
| — | — | — | — | — | — |
| 0.00101898 | 0.000996085 | 0.000680932 | 0.000480703 | 0.000589305 | 0 |
| 0.000160042 | 0.000154411 | 0.000103863 | 7.2024E-05 | 9.04249E-05 | 0 |
| 0.001174798 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.013345447 | 0.013045594 | 0.008918071 | 0.006295701 | 0.007718049 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40334E-06 | 2.63116E-06 | 2.30529E-06 | 1.36668E-06 | 1.22812E-06 | 0 |
| 4.26447E-05 | 7.99559E-05 | 7.00533E-05 | 4.15343E-05 | 3.73203E-05 | 0 |
| 1.01661E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29656E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87485E-06 | 8.65184E-06 | 5.12964E-06 | 4.6092E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_42 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 4.19E-02 | 3.59E-02 | 2.16E-02 | 2.33E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99472E-05 | 4.30E-05 | 3.27E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45388E-05 | 5.99E-05 | 4.45E-05 | 2.89E-05 | 3.41E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 5.92E-05 | 4.53E-05 | 3.05E-05 | 3.23E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.24736E-05 | 1.77E-03 | 1.32E-03 | 9.33E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.58182E-05 | 3.18E-03 | 2.38E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.51235E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52671E-07 | 1.66E-05 | 2.15E-05 | 8.93E-06 | 9.74E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.68965E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 1.88E-05 | 1.85E-05 | 9.85E-06 | 1.09E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000288765 | 8.62E-02 | 6.38E-02 | 4.84E-02 | 6.19E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_42 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00604975 | 0.0418544413 | 0.035898041 | 0.021567218 | 0.023274528 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049869154 | 0.107527369 | 0.081669601 | 0.052848133 | 0.059610091 | 0 |
| Arsenic (As) | Arsenic | As | 0.081806653 | 0.199700231 | 0.148251462 | 0.096434953 | 0.113814044 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032642 | 0.059170221 | 0.045276443 | 0.030480395 | 0.032302213 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.022484232 | **1.768471957** | **1.324102839** | 0.933257426 | **1.053105467** | 0 |
| Copper (Cu) | Copper | Cu | 0.000503751 | 0.034909532 | 0.026192009 | 0.018547431 | 0.021331937 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756175 | 0.014520383 | 0.014777028 | 0.007634894 | 0.008372121 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250903 | 0.005525979 | 0.007151829 | 0.002977354 | 0.003248127 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84482E-05 | 0.201024559 | 0.661128986 | 0.116311426 | 0.108483559 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453842 | 0.003758706 | 0.003699921 | 0.001970713 | 0.002173736 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471715796 | **12.08362414** | **25.00510376** | **6.757909547** | **7.129578602** | 0 |
| Uranium (U) | Uranium | U | 0.016268481 | 0.078444759 | 0.06242402 | 0.038533475 | 0.039001708 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.006017249 | **1.795036877** | **1.329418137** | **1.008239938** | **1.269122306** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000188286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.04892216 | 0.048201467 | 0.032608914 | 0.02275822 | 0.028329674 | 0 |
| 0.07445766 | 0.073360794 | 0.049629523 | 0.034637142 | 0.043116683 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.015358466 | 0.015132215 | 0.010237138 | 0.007144643 | 0.008893727 | 0 |
| 0.000315211 | 0.000310568 | 0.000210103 | 0.000146634 | 0.000182531 | 0 |
| 0.001756175 | 0.001730304 | 0.001170573 | 0.000816569 | 0.00101696 | 0 |
| — | — | — | — | — | — |
| 0.00024103 | 0.00023748 | 0.000160658 | 0.000112125 | 0.000139575 | 0 |
| 3.84482E-05 | 3.81256E-05 | 2.55731E-05 | 1.76759E-05 | 2.22884E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.003156742 | 0.003110239 | 0.002104117 | 0.001468493 | 0.001827995 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_43 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.55E-02 | 5.96E-02 | 4.80E-02 | 3.02E-02 | 3.39E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42272E-05 | 1.06E-04 | 7.51E-05 | 5.12E-05 | 6.05E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.00010321 | 1.43E-04 | 9.43E-05 | 6.40E-05 | 7.66E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.30892E-06 | 6.30E-05 | 4.71E-05 | 3.18E-05 | 3.38E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.87873E-05 | 2.01E-03 | 1.47E-03 | 1.04E-03 | 1.17E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000177174 | 3.27E-03 | 2.39E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17587E-06 | 1.90E-05 | 2.30E-05 | 1.00E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.5271E-06 | 2.59E-05 | 2.31E-05 | 1.32E-05 | 1.48E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.77976E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.00041242 | 7.78E-04 | 5.84E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001148624 | 8.59E-02 | 6.35E-02 | 4.81E-02 | 6.15E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_43 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.02551803 | 0.059636679 | 0.048021009 | 0.030183558 | 0.033925595 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210572769 | 0.266048067 | 0.187853387 | 0.12801381 | 0.151174147 | 0 |
| Arsenic (As) | Arsenic | As | 0.34407515 | 0.475283109 | 0.314487329 | 0.2134588 | 0.25538186 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004310321 | 0.062975653 | 0.047122457 | 0.03176006 | 0.033826456 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.098829986 | **2.005457646** | **1.473339835** | **1.037684074** | **1.172224005** | 0 |
| Copper (Cu) | Copper | Cu | 0.001947988 | 0.035902917 | 0.026224907 | 0.018576635 | 0.021357555 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00742452 | 0.020048452 | 0.015568433 | 0.010320818 | 0.011649433 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058672 | 0.00632424 | 0.007673249 | 0.003345324 | 0.003695551 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.201203234 | 0.661412376 | 0.11640187 | 0.108585369 | 0 |
| Silver (Ag) | Silver | Ag | 0.001905508 | 0.005180243 | 0.004628078 | 0.002634193 | 0.002968978 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.98561085** | **13.57387193** | **25.99501188** | **7.461830615** | **7.977595823** | 0 |
| Uranium (U) | Uranium | U | 0.068737034 | 0.129676371 | 0.097410188 | 0.063631214 | 0.069208756 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.02393493 | **1.796387025** | **1.321945975** | **1.002636228** | **1.280650576** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.6974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.003759146 | 0.006581818 | 0.001156915 | 0.000737018 | 0.000656294 | 0 |
| 0.029257434 | 0.055762937 | 0.007884071 | 0.004612442 | 0.00398615 | 0 |
| 0.000932491 | 0.001827051 | 0.000238989 | 0.000134677 | 0.000114738 | 0 |
| 0.028336594 | 0.055520521 | 0.007262423 | 0.004092573 | 0.003486555 | 0 |
| 0.000752423 | 0.001379983 | 0.000216113 | 0.000132018 | 0.000115888 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.93265E-05 | 6.88561E-05 | 1.21031E-05 | 7.71036E-06 | 6.86586E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000190622 | 0.000211656 | 8.88148E-05 | 6.76186E-05 | 6.34717E-05 | 0 |
| 0.145034843 | 0.161038961 | 0.067574902 | 0.051447715 | 0.048292584 | 0 |
| 0.000676829 | 0.000751515 | 0.00031535 | 0.000240089 | 0.000225365 | 0 |
| 0.011388558 | 0.012645248 | 0.005306178 | 0.004039824 | 0.003792074 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.00742452 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000160091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001747498 | 0.001676269 | 0.001145911 | 0.000808964 | 0.000991716 | 0 |
| **1.840508934** | **1.79915296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40334E-06 | 2.63116E-06 | 2.30529E-06 | 1.3668E-06 | 1.22812E-06 | 0 |
| 4.26447E-05 | 7.99559E-05 | 7.00533E-05 | 4.15343E-05 | 3.73203E-05 | 0 |
| 1.01661E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29656E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87485E-06 | 8.65184E-06 | 5.12964E-06 | 4.6092E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_44 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.04E-03 | 4.06E-02 | 3.50E-02 | 2.10E-02 | 2.27E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99434E-05 | 4.29E-05 | 3.26E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45315E-05 | 5.97E-05 | 4.43E-05 | 2.88E-05 | 3.40E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03179E-06 | 5.91E-05 | 4.52E-05 | 3.04E-05 | 3.22E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37486E-05 | 1.91E-03 | 1.43E-03 | 1.01E-03 | 1.14E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28305E-05 | 3.09E-03 | 2.32E-03 | 1.64E-03 | 1.89E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.5281E-07 | 1.65E-05 | 2.14E-05 | 8.91E-06 | 9.72E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69203E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26638E-06 | 1.87E-05 | 1.84E-05 | 9.82E-06 | 1.08E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.6026E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76089E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279054 | 8.50E-02 | 6.30E-02 | 4.78E-02 | 6.11E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_44 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006036054 | 0.040639137 | 0.034991944 | 0.02095338 | 0.022663135 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049859699 | 0.107140976 | 0.081366857 | 0.052652343 | 0.0594031 | 0 |
| Arsenic (As) | Arsenic | As | 0.081782144 | 0.199059045 | 0.147803415 | 0.096110588 | 0.113437443 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032136 | 0.059089725 | 0.045217541 | 0.030436733 | 0.032249286 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023759282 | **1.911308451** | **1.431869545** | **1.009100611** | **1.138503419** | 0 |
| Copper (Cu) | Copper | Cu | 0.000470919 | 0.033977188 | 0.025451664 | 0.018044796 | 0.020742754 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.01452108 | 0.014777602 | 0.00763528 | 0.008372598 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250949 | 0.005513688 | 0.007143676 | 0.002970814 | 0.0032406 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.201086916 | 0.661334062 | 0.116347505 | 0.108517211 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453297 | 0.00374753 | 0.003685813 | 0.001963152 | 0.002164485 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471630842 | **12.08278506** | **25.00451605** | **6.757461638** | **7.129018184** | 0 |
| Uranium (U) | Uranium | U | 0.016268223 | 0.07844339 | 0.062423088 | 0.038832837 | 0.039001088 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005814939 | **1.771559141** | **1.311556582** | 0.995066244 | **1.272268809** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0347 | 0.0310 | 0.0181 | 0.0192 | 0 |
| 0 | 0.0573 | 0.0485 | 0.0297 | 0.0309 | 0 |
| 0 | 0.1117 | 0.0962 | 0.0603 | 0.0693 | 0 |
| 0 | 0.0578 | 0.0446 | 0.0300 | 0.0318 | 0 |
| 0 | **1.8810** | **1.4189** | **1.0003** | **1.1280** | 0 |
| 0 | 0.0334 | 0.0252 | 0.0179 | 0.0205 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6136** | **24.6974** | **6.5421** | **6.8648** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7655** | **1.3083** | **0.9927** | **1.2696** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000939787 | 0.001645455 | 0.000289229 | 0.000184255 | 0.000164074 | 0 |
| 0.007314358 | 0.013940734 | 0.001971018 | 0.001153111 | 0.000996538 | 0 |
| 0.000233123 | 0.000456763 | 5.97474E-05 | 3.36693E-05 | 2.86844E-05 | 0 |
| 0.001084148 | 0.01388013 | 0.001815606 | 0.001023143 | 0.000871664 | 0 |
| 0.000188106 | 0.000344996 | 5.40283E-05 | 3.30046E-05 | 2.8972E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.83163E-06 | 1.7214E-05 | 3.02578E-06 | 1.92759E-06 | 1.71646E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.76554E-05 | 5.2914E-05 | 2.22037E-05 | 1.69046E-05 | 1.58679E-05 | 0 |
| 0.036258711 | 0.04025974 | 0.016893726 | 0.012861929 | 0.012073146 | 0 |
| 0.000169207 | 0.000187879 | 7.88374E-05 | 6.00223E-05 | 5.63413E-05 | 0 |
| 0.00284714 | 0.003161312 | 0.001326545 | 0.001009956 | 0.000948019 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379585 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 3** | **Study Area** |
| **Base** | **Scenario** |
| **Baseline** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_45 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.06E-06 | 7.57E-02 | 5.68E-02 | 3.84E-02 | 3.83E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.48754E-10 | 5.73E-06 | 4.28E-06 | 2.97E-06 | 3.15E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.35427E-09 | 8.32E-06 | 6.17E-06 | 4.48E-06 | 5.23E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.30693E-10 | 2.84E-06 | 2.10E-06 | 1.56E-06 | 1.89E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.3719E-08 | 3.54E-05 | 2.62E-05 | 1.92E-05 | 2.29E-05 | 0 |
| Copper (Cu) | Copper | Cu | 5.36198E-09 | 1.89E-04 | 1.40E-04 | 1.01E-04 | 1.15E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.81456E-11 | 2.52E-06 | 1.87E-06 | 1.35E-06 | 1.54E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 4.74835E-10 | 1.68E-06 | 1.24E-06 | 9.29E-07 | 1.14E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.21996E-10 | 2.61E-07 | 1.92E-07 | 1.47E-07 | 1.89E-07 | 0 |
| Uranium (U) | Uranium | U | 3.69223E-10 | 2.31E-07 | 1.73E-07 | 1.18E-07 | 1.19E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.66638E-07 | 2.54E-02 | 1.87E-02 | 1.43E-02 | 1.83E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| | media_Air | media_Soil | media_Soil | Media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — |
| | z | z | z | y | y | x | x | x | x | x | fa | fa | fa | x | fa | — | — | — | o | o | o | o | o | cg | cg | cg | o | cg | — | — | — | f | f | f | f | f | m | m | m | f | m | — | — | — |
| | y | y | y | x | x | w | w | w | w | w | es | es | es | w | es | — | — | — | n | n | n | n | n | by | by | by | n | by | — | — | — | e | e | e | e | e | e | e | e | e | e | — | — | — |
| | 6 | 7 | 8 | 9 | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | w | w | w | w | w | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Fraction of Country food intake | — | — | — | — | — | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Intake Rate | 2.2 | 0.00002 | — | 0.3 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Body Weight | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| Days per year of country food consumption | 365 | — | — | — | — | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 |
| Hours per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours outside per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Days per week | 7 | 7 | 7 | 7 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Weeks per year | 52 | 52 | 52 | 52 | 52 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area of Hands (cm²) | — | — | 320 | — | 320 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area, other (cm²) | — | — | 1460 | — | 1460 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface area, total (cm²) | — | — | 3620 | — | 3620 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, hands (g/cm²/event) | — | — | 0.0001 | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, other (g/cm²/event) | — | — | 0.00001 | — | 0.00001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil exposure events per day | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact events per day | — | — | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact event duration (h) | — | — | — | — | 0.5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unit Conversion Factor | 1.00E-03 | — | 1.00E-03 | — | 1.00E-03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter and Symbol | Parameter | Symbol | Average Daily Dose via Air Inhalation (mg/kg/d) | Average Daily Dose via Soil Ingestion (mg/kg/d) | Average Daily Dose via Soil Dermal Exposure (mg/kg) | Average Daily Dose via Water Ingestion (mg/kg/d) | Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.000132557 | 1.81863E-06 | 4.23741E-06 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Antimony (Sb) | Antimony | Sb | 3.83508E-08 | 5.26159E-10 | 1.22595E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Arsenic (As) | Arsenic | As | 1.60388E-07 | 2.20046E-09 | 1.53812E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | 9.30906E-09 | 1.27717E-10 | 2.97581E-12 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cobalt (Co) | Cobalt | Co | 9.77185E-07 | 1.34066E-08 | 3.12374E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Copper (Cu) | Copper | Cu | 3.42889E-07 | 4.70432E-09 | 6.57663E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | 0 | 0 | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 2.25496E-09 | 3.09373E-11 | 7.20838E-12 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | 0 | 0 | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Silver (Ag) | Silver | Ag | 1.03934E-08 | 1.42593E-10 | 3.32242E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Thallium (Tl) | Thallium | Tl | 2.6703E-09 | 3.66356E-11 | 8.53608E-11 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Uranium (U) | Uranium | U | 8.08169E-09 | 1.10878E-10 | 2.58345E-10 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Zinc (Zn) | Zinc | Zn | 3.64744E-06 | 5.00416E-08 | 1.16597E-07 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_45 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.000138613 | 0.075985019 | 0.056995866 | 0.038563954 | 0.038424886 | 0 |
| Antimony (Sb) | Antimony | Sb | 9.7499E-05 | 0.014511507 | 0.010859415 | 0.007525624 | 0.007956953 | 0 |
| Arsenic (As) | Arsenic | As | 0.000542474 | 0.028737688 | 0.021437879 | 0.015464909 | 0.017906191 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 9.43978E-06 | 0.00285973 | 0.002116269 | 0.001567242 | 0.001897919 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000990904 | 0.037212391 | 0.02778517 | 0.020174074 | 0.023730772 | 0 |
| Copper (Cu) | Copper | Cu | 3.82694E-06 | 0.002082763 | 0.001547967 | 0.001112838 | 0.001271027 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 7.6437E-07 | 0.000839812 | 0.000623884 | 0.000449172 | 0.00051437 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 2.17364E-06 | 0.000340583 | 0.000251945 | 0.000187868 | 0.000230641 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.00019945 | 0.019031741 | 0.014043793 | 0.010698876 | 0.013662125 | 0 |
| Uranium (U) | Uranium | U | 1.40849E-06 | 4.10534E-05 | 3.10509E-05 | 2.09455E-05 | 2.1019E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 7.946E-05 | 0.530155905 | 0.390043047 | 0.298014085 | 0.381208956 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0757 | 0.0568 | 0.0384 | 0.0383 | 0 |
| 0 | 0.0143 | 0.0107 | 0.0074 | 0.0079 | 0 |
| 0 | 0.0277 | 0.0206 | 0.0149 | 0.0174 | 0 |
| 0 | 0.0028 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0354 | 0.0262 | 0.0192 | 0.0229 | 0 |
| 0 | 0.0021 | 0.0015 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0004 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0002 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0187 | 0.0137 | 0.0105 | 0.0135 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5300** | **0.3899** | **0.2979** | **0.3811** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 6.05604E-06 | 6.72431E-06 | 2.82164E-06 | 2.14824E-06 | 2.01649E-06 | 0 |
| 1.62189E-06 | 2.83973E-06 | 4.99152E-07 | 3.17987E-07 | 2.83158E-07 | 0 |
| 7.84758E-06 | 1.4957E-05 | 2.11471E-06 | 1.23717E-06 | 1.06919E-06 | 0 |
| 1.30693E-07 | 2.5607E-07 | 3.34955E-08 | 1.88756E-08 | 1.6081E-08 | 0 |
| 1.3719E-05 | 2.68799E-05 | 3.51606E-06 | 1.98139E-06 | 1.68804E-06 | 0 |
| 5.89222E-08 | 1.08068E-07 | 1.6924E-08 | 1.03385E-08 | 9.07529E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.27152E-08 | 2.22628E-08 | 3.91323E-09 | 2.49295E-09 | 2.2199E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 9.49669E-08 | 1.05446E-07 | 4.42472E-08 | 3.36873E-08 | 3.16214E-08 | 0 |
| 8.71403E-06 | 9.67559E-06 | 4.06006E-06 | 3.0911E-06 | 2.90153E-06 | 0 |
| 6.15372E-08 | 6.83766E-08 | 2.86715E-08 | 2.18289E-08 | 2.04902E-08 | 0 |
| 3.47163E-06 | 3.85472E-06 | 1.61751E-06 | 1.23148E-06 | 1.15596E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0.000132557 | 0.000248535 | 0.000217754 | 0.000129105 | 0.000116006 | 0 |
| 9.58771E-05 | 0.000179763 | 0.000157499 | 9.33805E-05 | 8.39063E-05 | 0 |
| 0.000534626 | 0.001002387 | 0.000878241 | 0.000520705 | 0.000467875 | 0 |
| 0.30908E-06 | 1.74539E-05 | 1.52922E-05 | 9.06668E-06 | 8.14679E-06 | 0 |
| 0.000977185 | 0.001832154 | 0.00160524 | 0.000951739 | 0.000855178 | 0 |
| 3.76802E-06 | 7.06477E-06 | 6.18979E-06 | 3.6699E-06 | 3.29756E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 7.51655E-07 | 1.4093E-06 | 1.23476E-06 | 7.32082E-07 | 6.57806E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.07867E-06 | 3.89736E-06 | 3.41467E-06 | 2.02454E-06 | 1.81914E-06 | 0 |
| 0.000190736 | 0.000357617 | 0.000313325 | 0.000185769 | 0.000166921 | 0 |
| 1.34695E-06 | 2.52544E-06 | 2.21266E-06 | 1.31187E-06 | 1.17877E-06 | 0 |
| 7.59884E-05 | 0.000142473 | 0.000124828 | 7.40097E-05 | 6.65008E-05 | 0 |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |
| Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
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Source of TRV Values

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| Parameter and Symbol | Parameter | Symbol | Risk via Air Inhalation | Risk via Soil Ingestion Concentration | Risk via Soil Dermal Exposure | Risk via Water Ingestion | Risk via Water Dermal Exposure | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | — | — | — | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | — | — | — | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | — | — | — |
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| Aluminum (Al) | Aluminum | Al | 0.000217754 | 4.53276E-07 | 2.36837E-06 | 0 | 0 | — | 7.75367E-07 | 0 | 2.12203E-05 | 7.4578E-09 | 1.79622E-06 | 2.45739E-07 | 1.67931E-06 | 0 | 2.03389E-08 | — | — | — | — | 6.97831E-07 | 0 | 1.90982E-05 | 6.71202E-09 | 1.5806E-06 | 2.21165E-07 | 1.51138E-06 | 0 | 1.8305E-08 | — | — | — | — | 0.001711121 | 0 | 0.046829969 | 1.64583E-05 | 0.003875711 | 0.00054231 | 0.003705998 | 0 | 4.4885E-05 | — | — | — |
| Antimony (Sb) | Antimony | Sb | 0.000157499 | 3.27856E-07 | 1.71302E-07 | 0 | 0 | — | 9.17698E-08 | 0 | 3.06968E-06 | 2.48961E-07 | 1.85891E-07 | 9.84788E-07 | 3.29461E-07 | 0 | 2.44491E-09 | — | — | — | — | 8.29928E-08 | 0 | 2.76271E-06 | 2.24065E-07 | 1.67302E-07 | 8.86302E-07 | 2.96515E-07 | 0 | 2.21842E-09 | — | — | — | — | 0.000199717 | 0 | 0.006680485 | 0.000541809 | 0.000404551 | 0.002143158 | 0.000716999 | 0 | 5.36434E-06 | — | — | — |
| Arsenic (As) | Arsenic | As | 0.000087641 | 1.62814E-06 | 2.86562E-07 | 0 | 0 | — | 3.1272E-07 | 0 | 3.08107E-06 | 3.70195E-07 | 5.60245E-07 | 3.85926E-06 | 1.28712E-06 | 0 | 1.08363E-08 | — | — | — | — | 2.81448E-07 | 0 | 2.77296E-06 | 3.33119E-07 | 5.0584E-07 | 3.50573E-06 | 1.15841E-06 | 0 | 9.75271E-09 | — | — | — | — | 0.000674748 | 0 | 0.006647944 | 0.00079877 | 0.001212771 | 0.008404698 | 0.002777185 | 0 | 2.33813E-05 | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | 1.52925E-05 | 3.11832E-08 | 1.66323E-08 | 0 | 0 | — | 1.98007E-08 | 0 | 1.98028E-07 | 5.15892E-08 | 1.44391E-09 | 6.16798E-07 | 1.17611E-07 | 0 | 2.10566E-11 | — | — | — | — | 1.78205E-08 | 0 | 1.67622E-07 | 4.64114E-08 | 1.29952E-09 | 5.55118E-07 | 1.05895E-07 | 0 | 1.89527E-11 | — | — | — | — | 4.18336E-05 | 0 | 0.00039356 | 0.000109856 | 3.05091E-06 | 0.001303134 | 0.002248482 | 0 | 4.44912E-08 | — | — | — |
| Cobalt (Co) | Cobalt | Co | 0.00160524 | 3.34147E-06 | 1.74592E-07 | 0 | 0 | — | 2.0785E-07 | 0 | 3.12864E-06 | 5.92066E-07 | 7.57844E-06 | 2.37142E-07 | 8.80236E-08 | 0 | 1.67073E-07 | — | — | — | — | 1.87066E-07 | 0 | 2.81577E-06 | 5.32859E-07 | 6.8206E-06 | 2.13428E-07 | 7.92213E-08 | 0 | 1.50366E-07 | — | — | — | — | 0.00045303 | 0 | 0.006819198 | 0.001290471 | 0.016518029 | 0.000516877 | 0.000191857 | 0 | 0.00036154 | — | — | — |
| Copper (Cu) | Copper | Cu | 6.18979E-06 | 1.28847E-08 | 4.03934E-09 | 0 | 0 | — | 2.80513E-08 | 0 | 2.4128E-07 | 8.15357E-08 | 1.37995E-07 | 1.66138E-07 | 9.89184E-08 | 0 | 1.7293E-09 | — | — | — | — | 2.52462E-08 | 0 | 2.11752E-07 | 7.33822E-08 | 1.24195E-07 | 1.49624E-07 | 8.90266E-08 | 0 | 1.55637E-09 | — | — | — | — | 5.71803E-05 | 0 | 0.000491829 | 0.000166204 | 0.000281291 | 0.000338658 | 0.000201637 | 0 | 3.52503E-06 | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | 0 | 0 | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | — | 0 | 0 | 0 | 0 | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.23476E-06 | 2.57027E-09 | 1.34297E-09 | 0 | 0 | — | 4.39667E-09 | 0 | 1.20328E-07 | 6.50599E-09 | 6.63901E-08 | 6.71862E-08 | 2.16283E-08 | 0 | 7.6887E-10 | — | — | — | — | 3.95E-09 | 0 | 1.08295E-07 | 5.85539E-09 | 5.9751E-08 | 6.04676E-08 | 1.94655E-08 | 0 | 6.91983E-10 | — | — | — | — | 9.52343E-06 | 0 | 0.002806037 | 1.40923E-05 | 0.000143805 | 0.000145529 | 4.68481E-05 | 0 | 1.66541E-06 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | — | 0 | 0 | 0 | 0 | — | — | — |
| Silver (Ag) | Silver | Ag | 3.41467E-06 | 7.10788E-09 | 3.71350E-08 | 0 | 0 | — | 1.21588E-08 | 0 | 5.98972E-11 | 1.08802E-08 | 1.38308E-09 | 7.38494E-08 | 1.55107E-08 | 0 | 4.89666E-11 | — | — | — | — | 1.09429E-08 | 0 | 5.39078E-11 | 9.79686E-09 | 1.21777E-09 | 5.64645E-08 | 1.38596E-08 | 0 | 4.37126E-11 | — | — | — | — | 2.65108E-05 | 0 | 1.30598E-07 | 2.37338E-05 | 2.95022E-06 | 0.00018102 | 3.38191E-05 | 0 | 1.059E-07 | — | — | — |
| Thallium (Tl) | Thallium | Tl | 0.000313325 | 6.52218E-07 | 3.40784E-06 | 0 | 0 | — | 1.31882E-07 | 0 | 1.22135E-07 | 6.60371E-09 | 1.90656E-06 | 3.91449E-06 | 7.64392E-07 | 0 | 5.44048E-08 | — | — | — | — | 1.18667E-07 | 0 | 1.09922E-07 | 5.94334E-09 | 1.71591E-06 | 3.52301E-06 | 6.87952E-07 | 0 | 4.89644E-08 | — | — | — | — | 0.000242721 | 1.31237E-05 | 0.003788944 | 0.007779268 | 0.001519088 | 0 | 0.000108121 | 0 | 2.44E-06 | — | — | — |
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| Zinc (Zn) | Zinc | Zn | 0.000124828 | 2.59841E-07 | 1.35767E-06 | 0 | 0 | — | 4.4448E-07 | 0 | 3.04111E-06 | 5.9195E-06 | 1.62063E-08 | 0.000127801 | 4.28373E-05 | 0 | 2.14752E-10 | — | — | — | — | 4.00032E-07 | 0 | 2.73702E-06 | 5.32755E-06 | 1.45856E-08 | 0.000115021 | 3.85536E-05 | 0 | 1.93276E-10 | — | — | — | — | 0.000961669 | 0 | 0.006579743 | 0.012807322 | 3.50636E-05 | **0.276508179** | 0.092682046 | 0 | 4.64633E-07 | — | — | — |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_46 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.51E-06 | 7.57E-02 | 5.68E-02 | 3.84E-02 | 3.83E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.62189E-10 | 5.73E-06 | 4.28E-06 | 2.97E-06 | 3.15E-06 | 0 |
| Arsenic (As) | Arsenic | As | 5.88569E-10 | 8.32E-06 | 6.17E-06 | 4.48E-06 | 5.23E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 3.26732E-11 | 2.84E-06 | 2.10E-06 | 1.56E-06 | 1.89E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.42975E-09 | 3.54E-05 | 2.62E-05 | 1.92E-05 | 2.29E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.34049E-09 | 1.89E-04 | 1.40E-04 | 1.01E-04 | 1.15E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 9.53641E-12 | 2.52E-06 | 1.87E-06 | 1.35E-06 | 1.54E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 1.18709E-10 | 1.68E-06 | 1.24E-06 | 9.29E-07 | 1.14E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 3.04991E-11 | 2.61E-07 | 1.92E-07 | 1.47E-07 | 1.89E-07 | 0 |
| Uranium (U) | Uranium | U | 9.23058E-11 | 2.31E-07 | 1.73E-07 | 1.18E-07 | 1.19E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.16596E-08 | 2.54E-02 | 1.87E-02 | 1.43E-02 | 1.83E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_46 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 3.46532E-05 | 0.075793574 | 0.056830435 | 0.038465514 | 0.038336369 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.43747E-05 | 0.014374555 | 0.010740916 | 0.00745535 | 0.007893811 | 0 |
| Arsenic (As) | Arsenic | As | 0.000135618 | 0.02797468 | 0.020777613 | 0.015073453 | 0.017554483 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.35994E-06 | 0.002846447 | 0.002104775 | 0.001560427 | 0.001891797 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000247726 | 0.035818116 | 0.026578603 | 0.019458783 | 0.023088123 | 0 |
| Copper (Cu) | Copper | Cu | 9.56735E-07 | 0.002077383 | 0.001543312 | 0.001110078 | 0.001268547 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.91092E-07 | 0.000838739 | 0.000622955 | 0.000448621 | 0.000513875 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 5.43409E-07 | 0.00033758 | 0.000249351 | 0.000186324 | 0.000229253 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.98625E-05 | 0.018756271 | 0.013805754 | 0.010557231 | 0.013534758 | 0 |
| Uranium (U) | Uranium | U | 3.52121E-07 | 3.910815E-05 | 2.93699E-05 | 1.99452E-05 | 2.01195E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.9865E-05 | 0.530046159 | 0.389945213 | 0.297957654 | 0.381158214 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0757 | 0.0568 | 0.0384 | 0.0383 | 0 |
| 0 | 0.0143 | 0.0107 | 0.0074 | 0.0079 | 0 |
| 0 | 0.0277 | 0.0206 | 0.0149 | 0.0174 | 0 |
| 0 | 0.0028 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0354 | 0.0262 | 0.0192 | 0.0229 | 0 |
| 0 | 0.0021 | 0.0015 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0004 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0002 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0187 | 0.0137 | 0.0105 | 0.0135 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5300** | **0.3899** | **0.2979** | **0.3811** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.51401E-06 | 1.68108E-06 | 7.05411E-07 | 5.3706E-07 | 5.04124E-07 | 0 |
| 4.05471E-07 | 7.09932E-07 | 1.24788E-07 | 7.94967E-08 | 7.07896E-08 | 0 |
| 1.9619E-06 | 3.73926E-06 | 5.28677E-07 | 3.09293E-07 | 2.67296E-07 | 0 |
| 3.26732E-08 | 6.40174E-08 | 8.37387E-09 | 4.7189E-09 | 4.02026E-09 | 0 |
| 3.42975E-06 | 6.71998E-06 | 8.79014E-07 | 4.95348E-07 | 4.22011E-07 | 0 |
| 1.47307E-08 | 2.70169E-08 | 4.231E-09 | 2.58462E-09 | 2.26882E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.1788E-09 | 5.56571E-09 | 9.78309E-10 | 6.23236E-10 | 5.54975E-10 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.37417E-08 | 2.63616E-08 | 1.10618E-08 | 8.42182E-09 | 7.90534E-09 | 0 |
| 2.17851E-06 | 2.4189E-06 | 1.01501E-06 | 7.72774E-07 | 7.25382E-07 | 0 |
| 1.53843E-08 | 1.70819E-08 | 7.16788E-09 | 5.45722E-09 | 5.12254E-09 | 0 |
| 8.67908E-07 | 9.63679E-07 | 4.04377E-07 | 3.0787E-07 | 2.88689E-07 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 3.31392E-05 | 6.21338E-05 | 5.44384E-05 | 3.22763E-05 | 2.90016E-05 | 0 |
| 2.39693E-05 | 4.49407E-05 | 3.93748E-05 | 2.33451E-05 | 2.09766E-05 | 0 |
| 0.000133657 | 0.000250597 | 0.00021956 | 0.000130176 | 0.000116969 | 0 |
| 2.32727E-06 | 4.36347E-06 | 3.82305E-06 | 2.26667E-06 | 2.0367E-06 | 0 |
| 0.000244296 | 0.000458038 | 0.00040131 | 0.000237935 | 0.000213794 | 0 |
| 9.42004E-07 | 1.76619E-06 | 1.54745E-06 | 9.17475E-07 | 8.2439E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.87914E-07 | 3.52325E-07 | 3.08689E-07 | 1.83020E-07 | 1.64452E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.19668E-07 | 9.74341E-07 | 8.53668E-07 | 5.06136E-07 | 4.54784E-07 | 0 |
| 4.7684E-05 | 8.94041E-05 | 7.83314E-05 | 4.64423E-05 | 4.17304E-05 | 0 |
| 3.36737E-07 | 6.31359E-07 | 5.53164E-07 | 3.27969E-07 | 2.94694E-07 | 0 |
| 1.85971E-05 | 3.56182E-05 | 3.12069E-05 | 1.85024E-05 | 1.66252E-05 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_47 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 4.87E-05 | 7.62E-02 | 5.71E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.30264E-08 | 5.83E-06 | 4.34E-06 | 3.02E-06 | 3.20E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.65679E-08 | 8.48E-06 | 6.26E-06 | 4.55E-06 | 5.31E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.89379E-09 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.10075E-07 | 3.58E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 6.02349E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.63E-06 | 1.19E-06 | 9.20E-07 | 1.19E-06 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.88245E-10 | 2.53E-06 | 1.88E-06 | 1.36E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 8.81692E-12 | 1.14E-08 | 3.74E-08 | 6.59E-09 | 6.15E-09 | 0 |
| Silver (Ag) | Silver | Ag | 1.04209E-08 | 1.73E-06 | 1.27E-06 | 9.50E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.63506E-09 | 9.35E-07 | 6.85E-07 | 5.27E-07 | 6.80E-07 | 0 |
| Uranium (U) | Uranium | U | 5.81221E-09 | 2.41E-07 | 1.78E-07 | 1.22E-07 | 1.23E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 2.14666E-06 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_47 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.52132E-05 | 0.076255236 | 0.057152926 | 0.038689373 | 0.038561125 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.61593E-05 | 0.014588916 | 0.01087392 | 0.00754975 | 0.007998772 | 0 |
| Arsenic (As) | Arsenic | As | 0.000126822 | 0.028349096 | 0.020931213 | 0.015207119 | 0.017741248 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.76767E-06 | 0.002882553 | 0.002128871 | 0.001578584 | 0.001914199 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000157834 | 0.035875576 | 0.026443749 | 0.019400759 | 0.023069711 | 0 |
| Copper (Cu) | Copper | Cu | 9.30251E-07 | 0.002098112 | 0.001557837 | 0.001120685 | 0.001260869 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 8.1304E-05 | 5.97409E-05 | 4.5987E-05 | 5.95719E-05 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.65578E-07 | 0.000844794 | 0.000627395 | 0.000451822 | 0.000517652 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 4.40846E-09 | 5.69533E-06 | 1.86896E-05 | 3.29475E-06 | 3.07611E-06 | 0 |
| Silver (Ag) | Silver | Ag | 2.38716E-06 | 0.000345616 | 0.000254499 | 0.000190242 | 0.000233933 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000380175 | 0.066856668 | 0.049034897 | 0.037672048 | 0.04861297 | 0 |
| Uranium (U) | Uranium | U | 1.10687E-06 | 4.03742E-05 | 2.99214E-05 | 2.03859E-05 | 2.05746E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.10037E-05 | 0.535686531 | 0.394079115 | 0.301111801 | 0.385201373 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0762 | 0.0571 | 0.0387 | 0.0385 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0281 | 0.0208 | 0.0152 | 0.0177 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0263 | 0.0193 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0664 | 0.0488 | 0.0375 | 0.0485 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5356** | **0.3940** | **0.3011** | **0.3852** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 4.87156E-05 | 5.40912E-05 | 2.26977E-05 | 1.72807E-05 | 1.62209E-05 | 0 |
| 2.25121E-05 | 3.94161E-05 | 6.92833E-06 | 4.41373E-06 | 3.9303E-06 | 0 |
| 8.85597E-05 | 0.00016879 | 2.38644E-05 | 1.39615E-05 | 1.20657E-05 | 0 |
| 1.89379E-06 | 3.71054E-06 | 4.85361E-07 | 2.73514E-07 | 2.3302E-07 | 0 |
| 0.000110075 | 0.000215672 | 2.82113E-05 | 1.58978E-05 | 1.35441E-05 | 0 |
| 6.61922E-07 | 1.214E-06 | 1.90119E-07 | 1.16139E-07 | 1.01949E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.00627E-07 | 1.76186E-07 | 3.0969E-08 | 1.9729E-08 | 1.75681E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.08418E-06 | 2.31416E-06 | 9.71064E-07 | 7.39314E-07 | 6.93974E-07 | 0 |
| 0.000331076 | 0.000367609 | 0.000154255 | 0.00011744 | 0.000110239 | 0 |
| 9.68702E-07 | 1.0756E-06 | 4.5134E-07 | 3.43625E-07 | 3.22551E-07 | 0 |
| 4.47209E-05 | 4.96557E-05 | 2.08364E-05 | 1.58637E-05 | 1.48908E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.50539E-05 | 3.42663E-05 | 2.34747E-05 | 1.65367E-05 | 2.02727E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.87888E-08 | 2.81411E-08 | 1.92375E-08 | 1.35807E-08 | 1.66489E-08 | 0 |
| 4.40846E-09 | 4.36238E-09 | 2.9343E-09 | 2.0348E-09 | 2.55466E-09 | 0 |
| 2.22261E-19 | 2.17268E-19 | 1.48529E-19 | 1.04852E-19 | 1.2854E-19 | 0 |
| 3.17516E-16 | 3.10382E-16 | 2.1218E-16 | 1.49788E-16 | 1.83629E-16 | 0 |
| 1.18539E-17 | 1.15876E-17 | 7.92138E-18 | 5.59209E-18 | 6.85547E-18 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 6.49757E-06 | 1.21825E-05 | 1.06737E-05 | 6.32838E-06 | 5.68632E-06 | 0 |
| 8.59329E-06 | 1.61118E-05 | 1.41164E-05 | 8.36953E-06 | 7.52037E-06 | 0 |
| 3.82626E-05 | 7.17398E-05 | 6.28548E-05 | 3.72663E-05 | 3.34853E-05 | 0 |
| 8.7388E-07 | 1.63846E-06 | 1.43554E-06 | 8.51124E-07 | 7.64771E-07 | 0 |
| 4.7758E-05 | 8.95448E-05 | 7.84546E-05 | 4.65154E-05 | 4.1756E-05 | 0 |
| 2.68329E-07 | 5.03098E-07 | 4.40789E-07 | 2.61342E-07 | 2.34827E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.61629E-08 | 6.7803E-08 | 5.94056E-08 | 3.52213E-08 | 3.16478E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.02981E-07 | 5.68069E-07 | 4.97713E-07 | 2.95092E-07 | 2.65153E-07 | 0 |
| 4.90997E-05 | 9.20585E-05 | 8.06569E-05 | 4.78211E-05 | 4.29693E-05 | 0 |
| 1.38172E-07 | 2.590645-07 | 2.26978E-07 | 1.34575E-07 | 1.20921E-07 | 0 |
| 6.28277E-06 | 1.17798E-05 | 1.03208E-05 | 6.11917E-06 | 5.49833E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_48 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.22E-05 | 7.62E-02 | 5.71E-02 | 3.87E-02 | 3.85E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 5.56789E-09 | 5.81E-06 | 4.33E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 6.64198E-09 | 8.45E-06 | 6.26E-06 | 4.55E-06 | 5.31E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.73447E-10 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.75188E-08 | 3.56E-05 | 2.63E-05 | 1.93E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.50587E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.63E-06 | 1.19E-06 | 9.20E-07 | 1.19E-06 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 9.58989E-11 | 2.53E-06 | 1.88E-06 | 1.36E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 2.17246E-12 | 1.14E-08 | 3.74E-08 | 6.59E-09 | 6.15E-09 | 0 |
| Silver (Ag) | Silver | Ag | 2.60522E-09 | 1.72E-06 | 1.27E-06 | 9.47E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.15877E-09 | 9.31E-07 | 6.84E-07 | 5.26E-07 | 6.79E-07 | 0 |
| Uranium (U) | Uranium | U | 1.45305E-09 | 2.36E-07 | 1.76E-07 | 1.20E-07 | 1.21E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.36651E-07 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_48 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.38033E-05 | 0.076205531 | 0.057127897 | 0.038671666 | 0.038544694 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.6068E-05 | 0.014521173 | 0.010840239 | 0.007527483 | 0.007974713 | 0 |
| Arsenic (As) | Arsenic | As | 3.17056E-05 | 0.028168699 | 0.020866174 | 0.015168698 | 0.017707085 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 6.91917E-07 | 0.002878542 | 0.00212743 | 0.00157774 | 0.001913451 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.94585E-05 | 0.035646663 | 0.026363749 | 0.019353949 | 0.023028206 | 0 |
| Copper (Cu) | Copper | Cu | 2.32563E-07 | 0.002096824 | 0.001557364 | 0.001120402 | 0.001280637 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 8.1304E-05 | 5.97409E-05 | 4.5987E-05 | 5.95719E-05 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 4.1007E-08 | 0.000844589 | 0.000627313 | 0.00045177 | 0.000517603 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 1.08623E-09 | 5.69204E-06 | 1.86874E-05 | 3.29321E-06 | 3.07419E-06 | 0 |
| Silver (Ag) | Silver | Ag | 5.9679E-07 | 0.000343455 | 0.000253397 | 0.000189466 | 0.000233214 | 0 |
| Thallium (Tl) | Thallium | Tl | 9.50439E-05 | 0.066511917 | 0.048858713 | 0.037548101 | 0.048498063 | 0 |
| Uranium (U) | Uranium | U | 2.76719E-07 | 3.93732E-05 | 2.94127E-05 | 2.00303E-05 | 2.0242E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.27509E-05 | 0.535640754 | 0.394055747 | 0.301101523 | 0.385186081 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0762 | 0.0571 | 0.0387 | 0.0385 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0281 | 0.0208 | 0.0152 | 0.0177 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0263 | 0.0193 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0664 | 0.0488 | 0.0375 | 0.0485 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5356** | **0.3940** | **0.3011** | **0.3852** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.21789E-05 | 1.35228E-05 | 5.67441E-06 | 4.32018E-06 | 4.05524E-06 | 0 |
| 5.62803E-06 | 9.85401E-06 | 1.73208E-06 | 1.10343E-06 | 9.82575E-07 | 0 |
| 2.21399E-05 | 4.21974E-05 | 5.9661E-06 | 3.49037E-06 | 3.01643E-06 | 0 |
| 4.73447E-07 | 9.27635E-07 | 1.2134E-07 | 6.83786E-08 | 5.82549E-08 | 0 |
| 2.75188E-05 | 5.39181E-05 | 7.05282E-06 | 3.97446E-06 | 3.38602E-06 | 0 |
| 1.65481E-07 | 3.035E-07 | 4.75299E-08 | 2.90348E-08 | 2.54873E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.51568E-08 | 4.40455E-08 | 7.74225E-09 | 4.93224E-09 | 4.39202E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.21045E-07 | 5.7854E-07 | 2.42766E-07 | 1.84828E-07 | 1.73493E-07 | 0 |
| 8.2769E-05 | 9.19022E-05 | 3.85639E-05 | 2.93603E-05 | 2.75598E-05 | 0 |
| 2.42176E-07 | 2.68899E-07 | 1.12835E-07 | 8.59061E-08 | 8.06378E-08 | 0 |
| 1.11802E-05 | 1.24139E-05 | 5.20911E-06 | 3.96592E-06 | 3.72271E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.29168E-06 | 8.16953E-06 | 5.5268E-06 | 3.85723E-06 | 4.80152E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 6.80952E-09 | 6.70921E-09 | 4.53887E-09 | 3.16774E-09 | 3.94324E-09 | 0 |
| 1.08623E-09 | 1.07723E-09 | 7.22484E-10 | 4.99376E-10 | 6.29687E-10 | 0 |
| 5.25739E-20 | 5.17994E-20 | 3.5043E-20 | 2.4457E-20 | 3.04443E-20 | 0 |
| 7.51056E-17 | 7.39991E-17 | 5.00614E-17 | 3.49385E-17 | 4.34919E-17 | 0 |
| 2.80394E-18 | 2.76263E-18 | 1.86896E-18 | 1.30437E-18 | 1.6237E-18 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.62439E-06 | 3.04563E-06 | 2.66842E-06 | 1.5821E-06 | 1.42158E-06 | 0 |
| 2.14832E-06 | 4.02796E-06 | 3.52909E-06 | 2.09238E-06 | 1.88009E-06 | 0 |
| 9.56566E-06 | 1.7935E-05 | 1.57137E-05 | 9.31658E-06 | 8.37133E-06 | 0 |
| 2.1847E-07 | 4.09616E-07 | 3.58885E-07 | 2.12781E-07 | 1.91193E-07 | 0 |
| 1.19397E-05 | 2.23862E-05 | 1.96137E-05 | 1.16288E-05 | 1.04494E-05 | 0 |
| 6.70822E-08 | 1.25775E-07 | 1.10197E-07 | 6.53355E-08 | 5.87067E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.04074E-09 | 1.69508E-08 | 1.48514E-08 | 8.80532E-09 | 7.91195E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 7.57454E-08 | 1.42017E-07 | 1.24428E-07 | 7.3773E-08 | 6.62881E-08 | 0 |
| 1.22749E-05 | 2.30146E-05 | 2.01642E-05 | 1.19553E-05 | 1.07423E-05 | 0 |
| 3.45431E-08 | 6.47659E-08 | 5.67446E-08 | 3.36436E-08 | 3.02302E-08 | 0 |
| 1.57069E-06 | 2.94494E-06 | 2.58021E-06 | 1.52979E-06 | 1.37458E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project Only** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_49 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.48E-05 | 7.63E-02 | 5.72E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 9.65511E-09 | 5.82E-06 | 4.34E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 2.89278E-08 | 8.45E-06 | 6.24E-06 | 4.53E-06 | 5.29E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-09 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.23826E-07 | 3.58E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 6.56124E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.40117E-10 | 2.53E-06 | 1.88E-06 | 1.35E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 1.08968E-08 | 1.73E-06 | 1.27E-06 | 9.51E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.75743E-09 | 2.76E-07 | 2.01E-07 | 1.54E-07 | 1.97E-07 | 0 |
| Uranium (U) | Uranium | U | 6.18247E-09 | 2.41E-07 | 1.78E-07 | 1.22E-07 | 1.23E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 2.31364E-06 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_49 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.60909E-05 | 0.076317207 | 0.057195935 | 0.03871942 | 0.038591391 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.50825E-05 | 0.014546455 | 0.010839986 | 0.007527575 | 0.00797314 | 0 |
| Arsenic (As) | Arsenic | As | 0.000101694 | 0.028189285 | 0.020796312 | 0.015111693 | 0.017628158 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.11657E-06 | 0.002883167 | 0.002128971 | 0.001578828 | 0.001914694 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000133454 | 0.035861151 | 0.026406945 | 0.019381969 | 0.023057461 | 0 |
| Copper (Cu) | Copper | Cu | 7.58164E-07 | 0.0020987 | 0.001558161 | 0.001120927 | 0.001281129 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.20779E-07 | 0.00084441 | 0.000627013 | 0.000451578 | 0.0005173 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 2.19985E-06 | 0.00034547 | 0.000254284 | 0.000190153 | 0.000233906 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000341698 | 0.019722667 | 0.014385989 | 0.011013823 | 0.014096765 | 0 |
| Uranium (U) | Uranium | U | 1.04369E-06 | 4.01862E-05 | 2.97291E-05 | 2.02746E-05 | 2.04617E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.89495E-05 | 0.536506054 | 0.394348146 | 0.301324755 | 0.385466859 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0763 | 0.0572 | 0.0387 | 0.0386 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0280 | 0.0208 | 0.0151 | 0.0176 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0264 | 0.0194 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0193 | 0.0142 | 0.0109 | 0.0140 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5360** | **0.3943** | **0.3013** | **0.3854** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 2.41378E-05 | 4.22624E-05 | 7.42864E-06 | 4.73245E-06 | 4.21412E-06 | 0 |
| 9.64261E-05 | 0.000183782 | 2.59842E-05 | 1.52016E-05 | 1.31375E-05 | 0 |
| 2.02482E-06 | 3.96727E-06 | 5.18943E-07 | 2.92438E-07 | 2.49142E-07 | 0 |
| 0.000123826 | 0.000242614 | 3.17354E-05 | 1.78838E-05 | 1.5236E-05 | 0 |
| 7.21015E-07 | 1.32238E-06 | 2.07092E-07 | 1.26508E-07 | 1.11051E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.13372E-07 | 1.98501E-07 | 3.48915E-08 | 2.22278E-08 | 1.97932E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.17936E-06 | 2.41985E-06 | 1.01541E-06 | 7.73078E-07 | 7.25668E-07 | 0 |
| 0.000339817 | 0.000377314 | 0.000158328 | 0.000120542 | 0.00011315 | 0 |
| 1.03041E-06 | 1.14411E-06 | 4.80091E-07 | 3.65514E-07 | 3.43098E-07 | 0 |
| 4.82008E-05 | 5.35196E-05 | 2.24578E-05 | 1.70981E-05 | 1.60495E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.30598E-06 | 2.44863E-06 | 2.14536E-06 | 1.27197E-06 | 1.14292E-06 | 0 |
| 9.44721E-07 | 1.77129E-06 | 1.55191E-06 | 9.20121E-07 | 8.26768E-07 | 0 |
| 5.26832E-06 | 9.87774E-06 | 8.65437E-06 | 5.13114E-06 | 4.61054E-06 | 0 |
| 9.17505E-08 | 1.72026E-07 | 1.5072E-07 | 8.93614E-08 | 8.0295E-08 | 0 |
| 9.62852E-06 | 1.80528E-05 | 1.5817E-05 | 9.3778E-06 | 8.42635E-06 | 0 |
| 3.71489E-06 | 6.96516E-06 | 6.10252E-06 | 3.61816E-06 | 3.25106E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 7.40671E-09 | 1.38871E-08 | 1.21671E-08 | 7.21384E-09 | 6.48194E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.04818E-08 | 3.84019E-08 | 3.36458E-08 | 1.99484E-08 | 1.79245E-08 | 0 |
| 1.88086E-06 | 3.52648E-06 | 3.08972E-06 | 1.83188E-06 | 1.64602E-06 | 0 |
| 1.32783E-08 | 2.48959E-08 | 2.18125E-08 | 1.29326E-08 | 1.16204E-08 | 0 |
| 7.48787E-07 | 1.40392E-06 | 1.23005E-06 | 7.2929E-07 | 6.55297E-07 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_50 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.37E-05 | 7.63E-02 | 5.72E-02 | 3.87E-02 | 3.86E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 2.41378E-09 | 5.81E-06 | 4.33E-06 | 3.01E-06 | 3.19E-06 | 0 |
| Arsenic (As) | Arsenic | As | 7.23196E-09 | 8.41E-06 | 6.23E-06 | 4.53E-06 | 5.28E-06 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-10 | 2.88E-06 | 2.13E-06 | 1.58E-06 | 1.91E-06 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-08 | 3.57E-05 | 2.64E-05 | 1.94E-05 | 2.30E-05 | 0 |
| Copper (Cu) | Copper | Cu | 1.64031E-08 | 1.91E-04 | 1.42E-04 | 1.02E-04 | 1.17E-04 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 8.50292E-11 | 2.53E-06 | 1.88E-06 | 1.35E-06 | 1.55E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 2.72421E-09 | 1.72E-06 | 1.27E-06 | 9.48E-07 | 1.17E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.18936E-09 | 2.72E-07 | 2.00E-07 | 1.53E-07 | 1.96E-07 | 0 |
| Uranium (U) | Uranium | U | 1.54562E-09 | 2.36E-07 | 1.76E-07 | 1.20E-07 | 1.21E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 5.78409E-07 | 2.57E-02 | 1.89E-02 | 1.45E-02 | 1.85E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_50 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.40227E-05 | 0.076269748 | 0.057175182 | 0.038703891 | 0.038576853 | 0 |
| Antimony (Sb) | Antimony | Sb | 6.27062E-06 | 0.01451343 | 0.010833251 | 0.007523336 | 0.00796936 | 0 |
| Arsenic (As) | Arsenic | As | 2.54236E-05 | 0.02804404 | 0.020770333 | 0.015096444 | 0.017614847 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.29142E-07 | 0.002880063 | 0.002128469 | 0.001578542 | 0.001914447 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.33635E-05 | 0.03566565 | 0.02637128 | 0.019361522 | 0.023039715 | 0 |
| Copper (Cu) | Copper | Cu | 1.89541E-07 | 0.002097656 | 0.001557796 | 0.001120805 | 0.001261021 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 3.01948E-08 | 0.000844251 | 0.000626977 | 0.000451556 | 0.00051728 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver (Ag) | Silver | Ag | 5.49962E-07 | 0.000343626 | 0.000253497 | 0.000189559 | 0.000233348 | 0 |
| Thallium (Tl) | Thallium | Tl | 8.54244E-05 | 0.019437036 | 0.014264926 | 0.010922042 | 0.014010668 | 0 |
| Uranium (U) | Uranium | U | 2.60922E-07 | 3.93094E-05 | 2.93526E-05 | 1.99907E-05 | 2.01957E-05 | 0 |
| Zinc (Zn) | Zinc | Zn | 1.22374E-05 | 0.536014861 | 0.39433038 | 0.301311384 | 0.38545413 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0763 | 0.0572 | 0.0387 | 0.0386 | 0 |
| 0 | 0.0145 | 0.0108 | 0.0075 | 0.0080 | 0 |
| 0 | 0.0280 | 0.0208 | 0.0151 | 0.0176 | 0 |
| 0 | 0.0029 | 0.0021 | 0.0016 | 0.0019 | 0 |
| 0 | 0.0356 | 0.0264 | 0.0194 | 0.0230 | 0 |
| 0 | 0.0021 | 0.0016 | 0.0011 | 0.0013 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0008 | 0.0006 | 0.0005 | 0.0005 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0003 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0193 | 0.0142 | 0.0109 | 0.0140 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | **0.5360** | **0.3943** | **0.3013** | **0.3854** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 6.03444E-06 | 1.05656E-05 | 1.85716E-06 | 1.18311E-06 | 1.05353E-06 | 0 |
| 2.41065E-05 | 4.59456E-05 | 6.49604E-06 | 3.8004E-06 | 3.28437E-06 | 0 |
| 5.06204E-07 | 9.91817E-07 | 1.29736E-07 | 7.31096E-08 | 6.22855E-08 | 0 |
| 3.09564E-05 | 6.06536E-05 | 7.93386E-06 | 4.47095E-06 | 3.80901E-06 | 0 |
| 1.80254E-07 | 3.30595E-07 | 5.1773E-08 | 3.16269E-08 | 2.77627E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.83431E-08 | 4.96254E-08 | 8.72287E-09 | 5.55695E-09 | 4.9483E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.44841E-07 | 6.04962E-07 | 2.53853E-07 | 1.9327E-07 | 1.81417E-07 | 0 |
| 8.49542E-05 | 9.43086E-05 | 3.9582E-05 | 3.01355E-05 | 2.82874E-05 | 0 |
| 2.57603E-07 | 2.86028E-07 | 1.20023E-07 | 9.13785E-08 | 8.57746E-08 | 0 |
| 1.20502E-05 | 1.33799E-05 | 5.61445E-06 | 4.27452E-06 | 4.01238E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 3.26495E-07 | 6.12156E-07 | 5.3634E-07 | 3.17994E-07 | 2.85731E-07 | 0 |
| 2.3618E-07 | 4.42822E-07 | 3.87978E-07 | 2.3003E-07 | 2.06892E-07 | 0 |
| 1.31708E-06 | 2.46943E-06 | 2.16399E-06 | 1.28278E-06 | 1.15264E-06 | 0 |
| 2.29376E-08 | 4.30065E-08 | 3.76801E-08 | 2.23403E-08 | 2.00737E-08 | 0 |
| 2.40713E-06 | 4.5132E-06 | 3.95424E-06 | 2.34445E-06 | 2.10659E-06 | 0 |
| 9.28722E-09 | 1.74129E-08 | 1.52563E-08 | 9.04539E-09 | 8.12766E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.85168E-09 | 3.47177E-09 | 3.04179E-09 | 1.80346E-09 | 1.62049E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.12044E-09 | 9.60048E-09 | 8.41145E-09 | 4.98711E-09 | 4.48113E-09 | 0 |
| 4.70214E-07 | 8.8162E-07 | 7.7243E-07 | 4.5797E-07 | 4.11506E-07 | 0 |
| 3.31958E-09 | 6.22398E-09 | 5.45313E-09 | 3.23314E-09 | 2.90511E-09 | 0 |
| 1.87197E-07 | 3.50981E-07 | 3.07512E-07 | 1.82322E-07 | 1.63824E-07 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 3** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_51 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.48E-05 | 1.26E-03 | 9.26E-04 | 6.29E-04 | 6.26E-04 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.54399E-08 | 1.75E-07 | 1.21E-07 | 8.36E-08 | 8.90E-08 | 0 |
| Arsenic (As) | Arsenic | As | 2.94389E-08 | 2.42E-07 | 1.47E-07 | 1.06E-07 | 1.22E-07 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-09 | 8.35E-08 | 5.93E-08 | 4.39E-08 | 5.31E-08 | 0 |
| Cobalt (Co) | Cobalt | Co | 1.23826E-07 | 8.21E-07 | 4.60E-07 | 3.33E-07 | 3.90E-07 | 0 |
| Copper (Cu) | Copper | Cu | 1.2627E-05 | 9.43E-05 | 7.38E-05 | 5.03E-05 | 5.92E-05 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.28E-08 | 9.42E-09 | 7.25E-09 | 9.40E-09 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.40117E-10 | 4.08E-08 | 3.00E-08 | 2.16E-08 | 2.47E-08 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 1.04E-12 | 7.68E-13 | 5.91E-13 | 7.65E-13 | 0 |
| Silver (Ag) | Silver | Ag | 1.08968E-08 | 7.96E-08 | 5.49E-08 | 4.11E-08 | 4.95E-08 | 0 |
| Thallium (Tl) | Thallium | Tl | 4.75743E-09 | 3.27E-08 | 2.24E-08 | 1.72E-08 | 2.15E-08 | 0 |
| Uranium (U) | Uranium | U | 6.18247E-09 | 1.46E-08 | 8.70E-09 | 6.20E-09 | 6.21E-09 | 0 |
| Zinc (Zn) | Zinc | Zn | 4.09221E-05 | 1.16E-03 | 8.79E-04 | 6.49E-04 | 8.28E-04 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_51 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.47849E-05 | 0.001262511 | 0.000926426 | 0.000629325 | 0.000626256 | 0 |
| Antimony (Sb) | Antimony | Sb | 3.85998E-05 | 0.00043687 | 0.000301588 | 0.000209103 | 0.000222406 | 0 |
| Arsenic (As) | Arsenic | As | 9.81298E-05 | 0.000807875 | 0.000488673 | 0.000351985 | 0.000407417 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 2.02482E-06 | 8.35079E-05 | 5.93186E-05 | 4.39018E-05 | 5.31412E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.000123826 | 0.000820926 | 0.000459863 | 0.000332552 | 0.000390428 | 0 |
| Copper (Cu) | Copper | Cu | 0.000138759 | 0.001036443 | 0.000811241 | 0.000552853 | 0.00065044 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 6.41189E-07 | 4.71136E-07 | 3.62666E-07 | 4.69803E-07 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 1.13372E-07 | 1.3605E-05 | 9.9912E-06 | 7.19467E-06 | 8.24037E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 5.22347E-10 | 3.83813E-10 | 2.95449E-10 | 3.82727E-10 | 0 |
| Silver (Ag) | Silver | Ag | 2.17936E-06 | 1.59173E-05 | 1.09799E-05 | 8.22535E-06 | 9.90433E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.000339817 | 0.002338018 | 0.001599915 | 0.001226081 | 0.001536217 | 0 |
| Uranium (U) | Uranium | U | 1.03041E-06 | 2.44114E-06 | 1.45014E-06 | 1.03285E-06 | 1.03484E-06 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000852544 | 0.024149889 | 0.018313477 | 0.013515336 | 0.017245659 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0012 | 0.0009 | 0.0006 | 0.0006 | 0 |
| 0 | 0.0004 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0006 | 0.0005 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0006 | 0.0004 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0009 | 0.0007 | 0.0005 | 0.0006 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0020 | 0.0014 | 0.0011 | 0.0014 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0233 | 0.0178 | 0.0131 | 0.0168 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 2.41378E-05 | 4.22624E-05 | 7.42864E-06 | 4.73245E-06 | 4.21412E-06 | 0 |
| 9.64261E-05 | 0.000183782 | 2.59842E-05 | 1.52016E-05 | 1.31375E-05 | 0 |
| 2.02482E-06 | 3.96727E-06 | 5.18943E-07 | 2.92438E-07 | 2.49142E-07 | 0 |
| 0.000123826 | 0.000242614 | 3.17354E-05 | 1.78838E-05 | 1.5236E-05 | 0 |
| 7.21015E-07 | 1.32238E-06 | 2.07092E-07 | 1.26508E-07 | 1.11051E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.13372E-07 | 1.98501E-07 | 3.48915E-08 | 2.22278E-08 | 1.97932E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.17936E-06 | 2.41985E-06 | 1.01541E-06 | 7.73078E-07 | 7.25668E-07 | 0 |
| 0.000339817 | 0.000377314 | 0.000158328 | 0.000120542 | 0.00011315 | 0 |
| 1.03041E-06 | 1.14411E-06 | 4.80091E-07 | 3.65514E-07 | 3.43098E-07 | 0 |
| 4.82008E-05 | 5.35196E-05 | 2.24578E-05 | 1.70981E-05 | 1.60495E-05 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.44621E-05 | 1.41371E-05 | 9.66429E-06 | 6.82247E-06 | 8.36382E-06 | 0 |
| 1.70371E-06 | 1.66543E-06 | 1.1385E-06 | 8.03725E-07 | 9.85306E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000138038 | 0.000134936 | 9.22435E-05 | 6.51192E-05 | 7.98311E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000804343 | 0.00078627 | 0.000537501 | 0.000379448 | 0.000465174 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| **Location 3** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_52 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.37E-05 | 1.22E-03 | 9.07E-04 | 6.15E-04 | 6.13E-04 | 0 |
| Antimony (Sb) | Antimony | Sb | 3.78212E-09 | 1.58E-07 | 1.15E-07 | 8.01E-08 | 8.51E-08 | 0 |
| Arsenic (As) | Arsenic | As | 7.35286E-09 | 2.01E-07 | 1.40E-07 | 1.02E-07 | 1.19E-07 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-10 | 8.05E-08 | 5.89E-08 | 4.37E-08 | 5.30E-08 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-08 | 6.39E-07 | 4.36E-07 | 3.19E-07 | 3.79E-07 | 0 |
| Copper (Cu) | Copper | Cu | 2.98769E-06 | 8.49E-05 | 6.74E-05 | 4.58E-05 | 5.36E-05 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 1.28E-08 | 9.42E-09 | 7.25E-09 | 9.40E-09 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 8.50292E-11 | 4.04E-08 | 2.99E-08 | 2.15E-08 | 2.47E-08 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 1.04E-12 | 7.68E-13 | 5.91E-13 | 7.65E-13 | 0 |
| Silver (Ag) | Silver | Ag | 2.72421E-09 | 7.05E-08 | 5.11E-08 | 3.82E-08 | 4.68E-08 | 0 |
| Thallium (Tl) | Thallium | Tl | 1.18936E-09 | 2.88E-08 | 2.07E-08 | 1.59E-08 | 2.03E-08 | 0 |
| Uranium (U) | Uranium | U | 1.54562E-09 | 9.50E-09 | 6.54E-09 | 4.55E-09 | 4.67E-09 | 0 |
| Zinc (Zn) | Zinc | Zn | 9.71088E-06 | 1.13E-03 | 8.59E-04 | 6.34E-04 | 8.10E-04 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_52 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 1.36962E-05 | 0.001216888 | 0.000907282 | 0.00061475 | 0.000612575 | 0 |
| Antimony (Sb) | Antimony | Sb | 9.45531E-06 | 0.000394407 | 0.000288633 | 0.000200323 | 0.000212862 | 0 |
| Arsenic (As) | Arsenic | As | 2.45095E-05 | 0.00066877 | 0.000468315 | 0.000339967 | 0.000396812 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 5.06204E-07 | 8.05324E-05 | 5.85294E-05 | 4.36825E-05 | 5.29544E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 3.09564E-05 | 0.000638965 | 0.000436062 | 0.000319139 | 0.000379001 | 0 |
| Copper (Cu) | Copper | Cu | 3.28318E-05 | 0.000932685 | 0.000740606 | 0.000502828 | 0.000589433 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 6.41189E-07 | 4.71136E-07 | 3.62666E-07 | 4.69803E-07 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 2.83431E-08 | 1.34561E-05 | 9.96503E-06 | 7.178E-06 | 8.22552E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 5.22347E-10 | 3.83813E-10 | 2.95449E-10 | 3.82727E-10 | 0 |
| Silver (Ag) | Silver | Ag | 5.44841E-07 | 1.41024E-05 | 1.02184E-05 | 7.64554E-06 | 9.36008E-06 | 0 |
| Thallium (Tl) | Thallium | Tl | 8.49542E-05 | 0.002056032 | 0.001481169 | 0.001135675 | 0.001451355 | 0 |
| Uranium (U) | Uranium | U | 2.57603E-07 | 1.58306E-06 | 1.09007E-06 | 7.58753E-07 | 7.77517E-07 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000202031 | 0.023510936 | 0.01788595 | 0.013211572 | 0.016878622 | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0012 | 0.0009 | 0.0006 | 0.0006 | 0 |
| 0 | 0.0004 | 0.0003 | 0.0002 | 0.0002 | 0 |
| 0 | 0.0006 | 0.0005 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0 |
| 0 | 0.0006 | 0.0004 | 0.0003 | 0.0004 | 0 |
| 0 | 0.0009 | 0.0007 | 0.0005 | 0.0006 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0020 | 0.0014 | 0.0011 | 0.0014 | 0 |
| 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0 | 0.0233 | 0.0178 | 0.0131 | 0.0168 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 6.03444E-06 | 1.05656E-05 | 1.85716E-06 | 1.18311E-06 | 1.05353E-06 | 0 |
| 2.41065E-05 | 4.59456E-05 | 6.49604E-06 | 3.8004E-06 | 3.28437E-06 | 0 |
| 5.06204E-07 | 9.91817E-07 | 1.29736E-07 | 7.31096E-08 | 6.22855E-08 | 0 |
| 3.09564E-05 | 6.06536E-05 | 7.93386E-06 | 4.47095E-06 | 3.80901E-06 | 0 |
| 1.80254E-07 | 3.30595E-07 | 5.1773E-08 | 3.16269E-08 | 2.77627E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 2.83431E-08 | 4.96254E-08 | 8.72287E-09 | 5.55695E-09 | 4.9483E-09 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 5.44841E-07 | 6.04962E-07 | 2.53853E-07 | 1.9327E-07 | 1.81417E-07 | 0 |
| 8.49542E-05 | 9.43086E-05 | 3.9582E-05 | 3.01355E-05 | 2.82874E-05 | 0 |
| 2.57603E-07 | 2.86028E-07 | 1.20023E-07 | 9.13785E-08 | 8.57746E-08 | 0 |
| 1.20502E-05 | 1.33799E-05 | 5.61445E-06 | 4.27452E-06 | 4.01238E-06 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.42087E-06 | 3.37047E-06 | 2.28017E-06 | 1.59136E-06 | 1.98094E-06 | 0 |
| 4.02998E-07 | 3.97061E-07 | 2.68617E-07 | 1.87472E-07 | 2.33367E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.26515E-05 | 3.21705E-05 | 2.17638E-05 | 1.51893E-05 | 1.89077E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.00019026 | 0.000187457 | 0.000126817 | 8.85075E-05 | 0.000110175 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_53 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.55E-02 | 1.34E-01 | 1.03E-01 | 6.77E-02 | 7.13E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42279E-05 | 1.11E-04 | 7.84E-05 | 5.36E-05 | 6.30E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103212 | 1.49E-04 | 9.91E-05 | 6.76E-05 | 8.08E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.30905E-06 | 6.29E-05 | 4.70E-05 | 3.18E-05 | 3.41E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.88011E-05 | 1.95E-03 | 1.43E-03 | 1.01E-03 | 1.14E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.00017718 | 3.30E-03 | 2.41E-03 | 1.71E-03 | 1.97E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 3.88E-04 | 3.58E-04 | 2.00E-04 | 2.26E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17591E-06 | 2.07E-05 | 2.38E-05 | 1.10E-05 | 1.22E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 3.82E-04 | 1.26E-03 | 2.21E-04 | 2.06E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.52757E-06 | 2.68E-05 | 2.35E-05 | 1.37E-05 | 1.55E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.77977E-05 | 1.82E-04 | 3.47E-04 | 1.00E-04 | 1.07E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412421 | 7.60E-04 | 5.69E-04 | 3.73E-04 | 4.06E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00114879 | 1.07E-01 | 7.90E-02 | 6.00E-02 | 7.67E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_53 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025680029 | 0.133743452 | 0.103342588 | 0.067765621 | 0.071325043 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210610158 | 0.277582113 | 0.196189606 | 0.133995374 | 0.157532981 | 0 |
| Arsenic (As) | Arsenic | As | 0.344266514 | 0.497775581 | 0.33053914 | 0.225566228 | 0.269515017 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004312978 | 0.062930393 | 0.046996339 | 0.031819135 | 0.034130548 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.099213462 | **1.947481685** | **1.429180735** | **1.007250793** | **1.139040615** | 0 |
| Copper (Cu) | Copper | Cu | 0.001948621 | 0.036312024 | 0.026507183 | 0.018792357 | 0.021598289 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424526 | 0.019406914 | 0.017888083 | 0.009979903 | 0.011281651 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058953 | 0.0069002 | 0.007947343 | 0.00365119 | 0.004054635 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.191150795 | 0.628346952 | 0.110585379 | 0.103160623 | 0 |
| Silver (Ag) | Silver | Ag | 0.001906392 | 0.005353801 | 0.004708245 | 0.002732928 | 0.003102805 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985632987** | **13.01189363** | **24.7738939** | **7.145253828** | **7.647861459** | 0 |
| Uranium (U) | Uranium | U | 0.068737351 | 0.126959699 | 0.094858775 | 0.062086914 | 0.067747712 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.023965204 | **2.232177681** | **1.646495695** | **1.250986657** | **1.598336437** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1087 | 0.0862 | 0.0557 | 0.0565 | 0 |
| 0 | 0.0688 | 0.0568 | 0.0357 | 0.0372 | 0 |
| 0 | 0.1339 | 0.1119 | 0.0722 | 0.0833 | 0 |
| 0 | 0.0578 | 0.0445 | 0.0301 | 0.0321 | 0 |
| 0 | **1.8223** | **1.3742** | **0.9695** | **1.0944** | 0 |
| 0 | 0.0338 | 0.0255 | 0.0181 | 0.0208 | 0 |
| 0 | 0.0122 | 0.0129 | 0.0065 | 0.0070 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0058 | 0.0073 | 0.0032 | 0.0035 | 0 |
| 0 | 0.1910 | **0.6282** | 0.1105 | 0.1031 | 0 |
| 0 | 0.0035 | 0.0035 | 0.0019 | 0.0020 | 0 |
| 0 | **11.0515** | **23.4763** | **6.2255** | **6.5351** | 0 |
| 0 | 0.0593 | 0.0491 | 0.0297 | 0.0282 | 0 |
| 0 | **2.2072** | **1.6328** | **1.2410** | **1.5873** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 6.05604E-06 | 6.72431E-06 | 2.82164E-06 | 2.14824E-06 | 2.01649E-06 | 0 |
| 0.003760768 | 0.006584658 | 0.001157414 | 0.000737336 | 0.000656577 | 0 |
| 0.029265281 | 0.055777894 | 0.007886185 | 0.004613679 | 0.003987219 | 0 |
| 0.000932622 | 0.001827307 | 0.000239023 | 0.000134696 | 0.000114754 | 0 |
| 0.028350313 | 0.055547401 | 0.007265939 | 0.004094555 | 0.003488343 | 0 |
| 0.000752482 | 0.001380091 | 0.00021613 | 0.000132029 | 0.000115897 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.93392E-05 | 6.88783E-05 | 1.2107E-05 | 7.71265E-06 | 6.86808E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000190717 | 0.000211762 | 8.8859E-05 | 6.76522E-05 | 6.35033E-05 | 0 |
| 0.145043557 | 0.161048637 | 0.067578962 | 0.051450806 | 0.048295486 | 0 |
| 0.000676891 | 0.000751583 | 0.000315378 | 0.000240111 | 0.000225386 | 0 |
| 0.011139203 | 0.012649103 | 0.005307796 | 0.004041056 | 0.00379323 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.007424526 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000156091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001747498 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 5.59431E-05 | 0.000100489 | 9.18989E-05 | 5.44864E-05 | 4.89583E-05 | 0 |
| 4.04631E-05 | 7.58656E-05 | 6.64099E-05 | 3.94095E-05 | 3.54111E-05 | 0 |
| 0.000225629 | 0.000423039 | 0.000370645 | 0.000219754 | 0.000197458 | 0 |
| 3.92872E-06 | 7.36509E-06 | 6.45379E-06 | 3.82642E-06 | 3.43826E-06 | 0 |
| 0.000412402 | 0.000773226 | 0.000677461 | 0.000401664 | 0.000360912 | 0 |
| 1.59022E-06 | 2.98155E-06 | 2.61228E-06 | 1.54881E-06 | 1.39167E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.17222E-07 | 5.94769E-07 | 5.21106E-07 | 3.08961E-07 | 2.77615E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.77264E-07 | 1.64481E-06 | 1.4411E-06 | 8.54421E-07 | 7.67733E-07 | 0 |
| 8.04965E-05 | 0.000150925 | 0.000132233 | 7.84004E-05 | 7.04461E-05 | 0 |
| 5.68454E-07 | 1.06581E-06 | 9.33811E-07 | 5.53652E-07 | 4.9748E-07 | 0 |
| 3.20695E-05 | 6.0128E-05 | 5.26811E-05 | 3.12344E-05 | 2.80654E-05 | 0 |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| raf_HH Concentration Media | raf_HH Concentration Media | raf_HH Concentration Media |

| | |
|---|---|
| Model_54 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.04E-03 | 1.15E-01 | 9.02E-02 | 5.85E-02 | 6.00E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99436E-05 | 4.74E-05 | 3.59E-05 | 2.34E-05 | 2.63E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45321E-05 | 6.64E-05 | 4.91E-05 | 3.24E-05 | 3.82E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03182E-06 | 5.90E-05 | 4.51E-05 | 3.05E-05 | 3.26E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37521E-05 | 1.85E-03 | 1.39E-03 | 9.78E-04 | 1.10E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28319E-05 | 3.13E-03 | 2.34E-03 | 1.66E-03 | 1.91E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.78E-04 | 2.82E-04 | 1.46E-04 | 1.60E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.5282E-07 | 1.83E-05 | 2.23E-05 | 9.83E-06 | 1.08E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69203E-08 | 3.82E-04 | 1.26E-03 | 2.21E-04 | 2.06E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26649E-06 | 1.96E-05 | 1.88E-05 | 1.03E-05 | 1.15E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60263E-06 | 1.61E-04 | 3.33E-04 | 9.02E-05 | 9.52E-05 | 0 |
| Uranium (U) | Uranium | U | 9.7609E-05 | 4.52E-04 | 3.59E-04 | 2.24E-04 | 2.25E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279096 | 1.06E-01 | 7.85E-02 | 5.97E-02 | 7.63E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_54 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006951564 | 0.1146622 | 0.090242483 | 0.058492967 | 0.060024352 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049869046 | 0.118622595 | 0.089678634 | 0.058607541 | 0.065738245 | 0 |
| Arsenic (As) | Arsenic | As | 0.081829985 | 0.221282239 | 0.163627541 | 0.108083035 | 0.127449346 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.0010328 | 0.059040722 | 0.045088286 | 0.030493949 | 0.032551708 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023855151 | **1.852792378** | **1.387252252** | 0.976395747 | **1.105060024** | 0 |
| Copper (Cu) | Copper | Cu | 0.000471078 | 0.034386408 | 0.02573321 | 0.016280091 | 0.020963105 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.013881543 | 0.014097251 | 0.007294365 | 0.008004817 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251019 | 0.006089255 | 0.007417437 | 0.003276482 | 0.003599406 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.191034478 | 0.628268638 | 0.110531014 | 0.103092465 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453518 | 0.003917121 | 0.003764973 | 0.002061285 | 0.00229777 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471636376 | **11.52078063** | **23.78337849** | **6.440872728** | **6.799272833** | 0 |
| Uranium (U) | Uranium | U | 0.016268303 | 0.075362307 | 0.059871338 | 0.037288335 | 0.03753986 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005822507 | **2.213308616** | **1.636072067** | **1.243378171** | **1.589935411** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1087 | 0.0862 | 0.0557 | 0.0565 | 0 |
| 0 | 0.0688 | 0.0568 | 0.0357 | 0.0372 | 0 |
| 0 | 0.1339 | 0.1119 | 0.0722 | 0.0833 | 0 |
| 0 | 0.0578 | 0.0445 | 0.0301 | 0.0321 | 0 |
| 0 | **1.8223** | **1.3742** | **0.9695** | **1.0944** | 0 |
| 0 | 0.0338 | 0.0255 | 0.0181 | 0.0208 | 0 |
| 0 | 0.0122 | 0.0129 | 0.0065 | 0.0070 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0058 | 0.0073 | 0.0032 | 0.0035 | 0 |
| 0 | 0.1910 | **0.6282** | 0.1105 | 0.1031 | 0 |
| 0 | 0.0035 | 0.0035 | 0.0019 | 0.0020 | 0 |
| 0 | **11.0515** | **23.4763** | **6.2255** | **6.5351** | 0 |
| 0 | 0.0593 | 0.0491 | 0.0297 | 0.0282 | 0 |
| 0 | **2.2072** | **1.6328** | **1.2410** | **1.5873** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.51401E-06 | 1.68108E-06 | 7.05411E-07 | 5.3706E-07 | 5.04124E-07 | 0 |
| 0.000940192 | 0.001646164 | 0.000289354 | 0.000184334 | 0.000164144 | 0 |
| 0.00731632 | 0.013944473 | 0.001971546 | 0.00115342 | 0.000996805 | 0 |
| 0.000233156 | 0.000456827 | 5.97557E-05 | 3.3674E-05 | 2.86884E-05 | 0 |
| 0.0070875 78 | 0.01388685 | 0.001816485 | 0.001023639 | 0.000872086 | 0 |
| 0.00018812 | 0.000345023 | 5.40325E-05 | 3.30072E-05 | 2.89743E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.83481E-06 | 1.72196E-05 | 3.02676E-06 | 1.92821E-06 | 1.71702E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.76791E-05 | 5.29404E-05 | 2.22148E-05 | 1.69131E-05 | 1.58758E-05 | 0 |
| 0.036260889 | 0.040262159 | 0.016894741 | 0.012862701 | 0.012073871 | 0 |
| 0.000169223 | 0.000187896 | 7.88446E-05 | 6.00278E-05 | 5.63465E-05 | 0 |
| 0.002848008 | 0.003162276 | 0.001326949 | 0.001010264 | 0.000948308 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379586 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.39858E-05 | 2.62224E-05 | 2.29747E-05 | 1.36216E-05 | 1.22396E-05 | 0 |
| 1.01158E-05 | 1.89664E-05 | 1.66174E-05 | 9.85237E-06 | 8.85277E-06 | 0 |
| 5.64072E-05 | 0.00010576 | 9.26612E-05 | 5.49384E-05 | 4.93645E-05 | 0 |
| 9.82181E-07 | 1.84152E-06 | 1.61345E-06 | 9.56606E-07 | 8.5955E-07 | 0 |
| 0.000103101 | 0.000193307 | 0.000169365 | 0.000100416 | 9.02279E-05 | 0 |
| 3.97555E-07 | 7.45388E-07 | 6.53071E-07 | 3.87203E-07 | 3.47918E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 7.93054E-08 | 1.48692E-07 | 1.30277E-07 | 7.72404E-08 | 6.94037E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.19316E-07 | 4.11202E-07 | 3.60275E-07 | 2.13605E-07 | 1.91933E-07 | 0 |
| 2.01241E-05 | 3.77313E-05 | 3.30583E-05 | 1.96001E-05 | 1.76115E-05 | 0 |
| 1.42114E-07 | 2.66453E-07 | 2.33453E-07 | 1.38413E-07 | 1.2437E-07 | 0 |
| 8.01737E-06 | 1.5032E-05 | 1.31703E-05 | 7.8088E-06 | 7.01636E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_55 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 1.36E-01 | 1.05E-01 | 6.89E-02 | 7.25E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42503E-05 | 1.12E-04 | 7.90E-05 | 5.39E-05 | 6.33E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103236 | 1.50E-04 | 9.95E-05 | 6.78E-05 | 8.10E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31081E-06 | 6.49E-05 | 4.85E-05 | 3.28E-05 | 3.51E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.16818E-05 | 1.84E-03 | 1.35E-03 | 9.53E-04 | 1.08E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000177235 | 3.34E-03 | 2.44E-03 | 1.73E-03 | 1.99E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.07E-04 | 3.76E-04 | 2.10E-04 | 2.38E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17626E-06 | 2.12E-05 | 2.46E-05 | 1.12E-05 | 1.24E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.1219E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53752E-06 | 2.75E-05 | 2.43E-05 | 1.40E-05 | 1.59E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78022E-05 | 2.07E-04 | 3.77E-04 | 1.14E-04 | 1.24E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412426 | 7.78E-04 | 5.85E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00115077 | 1.08E-01 | 7.95E-02 | 6.04E-02 | 7.72E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_55 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025623316 | 0.135984381 | 0.105255149 | 0.068920898 | 0.072529502 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210700457 | 0.279222875 | 0.197686168 | 0.134829978 | 0.158385554 | 0 |
| Arsenic (As) | Arsenic | As | 0.34445473 | 0.499371169 | 0.332321956 | 0.226361016 | 0.27037108 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.00431842 | 0.064909399 | 0.048551297 | 0.033218168 | 0.035107789 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.092097588 | **1.845789049** | **1.352789877** | 0.953470376 | **1.078187273** | 0 |
| Copper (Cu) | Copper | Cu | 0.00194997 | 0.03670491 | 0.026820235 | 0.019004698 | 0.021846638 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424526 | 0.020356666 | 0.018794904 | 0.01049515 | 0.011675263 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001059067 | 0.007053564 | 0.008214916 | 0.003735491 | 0.004142933 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156095 | 0.201209385 | 0.6614314 | 0.116405422 | 0.108588778 | 0 |
| Silver (Ag) | Silver | Ag | 0.001910142 | 0.005498984 | 0.004863317 | 0.002809459 | 0.003183739 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.986302338** | **14.81954467** | **26.91029528** | **8.166275524** | **8.889932689** | 0 |
| Uranium (U) | Uranium | U | 0.068738893 | 0.129697493 | 0.09742587 | 0.063641789 | 0.069219305 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024029086 | **2.245831107** | **1.657003626** | **1.258643123** | **1.608126792** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1351 | 0.1135 | 0.0729 | 0.0840 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.7274** | **1.3026** | **0.9191** | **1.0378** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0131 | 0.0138 | 0.0070 | 0.0076 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2011** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **12.8582** | **25.6119** | **7.2460** | **7.7767** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2208** | **1.6432** | **1.2486** | **1.5970** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 4.87156E-05 | 5.40912E-05 | 2.26977E-05 | 1.72807E-05 | 1.62209E-05 | 0 |
| 0.003781658 | 0.006621234 | 0.001163843 | 0.000741432 | 0.000660225 | 0 |
| 0.029349994 | 0.055931726 | 0.007907935 | 0.004626404 | 0.003998216 | 0 |
| 0.000934385 | 0.001830762 | 0.000239475 | 0.000134951 | 0.000114971 | 0 |
| 0.028446669 | 0.055736194 | 0.007290635 | 0.004108471 | 0.003500199 | 0 |
| 0.000753085 | 0.001381197 | 0.000216303 | 0.000132134 | 0.00011599 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94271E-05 | 6.90322E-05 | 1.21341E-05 | 7.73009E-06 | 6.88343E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192706 | 0.00021397 | 8.97858E-05 | 6.83579E-05 | 6.41657E-05 | 0 |
| 0.145365919 | 0.16140657 | 0.067729158 | 0.051565156 | 0.048402823 | 0 |
| 0.000677798 | 0.000752591 | 0.000315801 | 0.000240433 | 0.000225688 | 0 |
| 0.011433279 | 0.012694904 | 0.005327015 | 0.004055688 | 0.003806965 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206843981** | **0.202196489** | 0.138223118 | 0.097578439 | 0.119623711 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.063235106 | 0.061814303 | 0.042256746 | 0.029831097 | 0.036570646 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.007424526 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019325 | 0.000996422 | 0.000681162 | 0.000480866 | 0.000589504 | 0 |
| 0.000160095 | 0.000154463 | 0.000103898 | 7.20484E-05 | 9.04555E-05 | 0 |
| 0.001714798 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 5.6571E-05 | 0.000106067 | 9.29303E-05 | 5.50979E-05 | 4.95078E-05 | 0 |
| 7.48173E-05 | 0.000140277 | 0.000122904 | 7.28691E-05 | 6.54766E-05 | 0 |
| 0.000333133 | 0.000624601 | 0.000547244 | 0.000324458 | 0.00029154 | 0 |
| 7.60842E-06 | 1.42653E-05 | 1.24985E-05 | 7.4103E-06 | 6.65847E-06 | 0 |
| 0.000415813 | 0.00077962 | 0.000683064 | 0.000404985 | 0.000363896 | 0 |
| 2.3362E-06 | 4.38022E-06 | 3.83772E-06 | 2.27537E-06 | 2.04451E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.14852E-07 | 5.90326E-07 | 5.17213E-07 | 3.06653E-07 | 2.75541E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.6379E-06 | 4.94589E-06 | 4.33333E-06 | 2.56921E-06 | 2.30855E-06 | 0 |
| 0.000427485 | 0.000801506 | 0.000702238 | 0.000416354 | 0.000374111 | 0 |
| 1.203E-06 | 2.25553E-06 | 1.97618E-06 | 1.17167E-06 | 1.05628E-06 | 0 |
| 5.47008E-05 | 0.00010256 | 8.98581E-05 | 5.32785E-05 | 4.78711E-05 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_56 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 1.17E-01 | 9.21E-02 | 5.96E-02 | 6.12E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.9949E-05 | 4.81E-05 | 3.64E-05 | 2.38E-05 | 2.66E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45381E-05 | 6.67E-05 | 4.95E-05 | 3.26E-05 | 3.84E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03226E-06 | 6.10E-05 | 4.66E-05 | 3.15E-05 | 3.35E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.20693E-05 | 1.76E-03 | 1.31E-03 | 9.27E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28456E-05 | 3.16E-03 | 2.37E-03 | 1.68E-03 | 1.93E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.97E-04 | 3.00E-04 | 1.56E-04 | 1.72E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52906E-07 | 1.87E-05 | 2.31E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69225E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.26898E-06 | 2.03E-05 | 1.96E-05 | 1.07E-05 | 1.19E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60376E-06 | 1.87E-04 | 3.63E-04 | 1.04E-04 | 1.13E-04 | 0 |
| Uranium (U) | Uranium | U | 9.76103E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.00027959 | 1.07E-01 | 7.90E-02 | 6.00E-02 | 7.68E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_56 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006062376 | 0.116866721 | 0.092139364 | 0.059636436 | 0.061217746 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.045891149 | 0.120161519 | 0.09111015 | 0.059401299 | 0.066550063 | 0 |
| Arsenic (As) | Arsenic | As | 0.081877039 | 0.22261128 | 0.165261596 | 0.108789751 | 0.1282266 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001034161 | 0.061011963 | 0.046638372 | 0.031490104 | 0.033526371 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.0221733 | **1.756314218** | **1.314522852** | 0.9272123386 | **1.047360196** | 0 |
| Copper (Cu) | Copper | Cu | 0.004771415 | 0.034776415 | 0.026045213 | 0.018471807 | 0.021230894 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.014829294 | 0.015004073 | 0.007809612 | 0.008598428 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251047 | 0.006242485 | 0.007684978 | 0.003360761 | 0.003687681 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84612E-05 | 0.201093064 | 0.661353084 | 0.116351056 | 0.108520619 | 0 |
| Silver (Ag) | Silver | Ag | 0.000454456 | 0.004058172 | 0.003917181 | 0.002136001 | 0.002377052 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471803714 | **13.32767528** | **25.91923972** | **7.461555196** | **8.041035811** | 0 |
| Uranium (U) | Uranium | U | 0.016268688 | 0.078462454 | 0.062437334 | 0.038842505 | 0.03901081 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005838477 | **2.226896467** | **1.646537701** | **1.251025131** | **1.59970061** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1351 | 0.1135 | 0.0729 | 0.0840 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.7274** | **1.3026** | **0.9191** | **1.0378** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0131 | 0.0138 | 0.0070 | 0.0076 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2011** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **12.8582** | **25.6119** | **7.2460** | **7.7767** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2208** | **1.6432** | **1.2486** | **1.5970** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.21789E-05 | 1.35228E-05 | 5.67441E-06 | 4.32018E-06 | 4.05524E-06 | 0 |
| 0.000945415 | 0.001655309 | 0.000290961 | 0.000185358 | 0.000165056 | 0 |
| 0.007336498 | 0.013982932 | 0.001976984 | 0.001156601 | 0.000999554 | 0 |
| 0.000233596 | 0.00045769 | 5.98687E-05 | 3.37376E-05 | 2.87427E-05 | 0 |
| 0.007111667 | 0.013934048 | 0.001822659 | 0.001027118 | 0.00087505 | 0 |
| 0.000188271 | 0.000345299 | 5.40758E-05 | 3.30336E-05 | 2.89975E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85679E-06 | 1.72581E-05 | 3.03352E-06 | 1.93252E-06 | 1.72086E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.81764E-05 | 5.34929E-05 | 2.24465E-05 | 1.70895E-05 | 1.60414E-05 | 0 |
| 0.03634148 | 0.040351642 | 0.016932289 | 0.012891289 | 0.012100706 | 0 |
| 0.000169449 | 0.000188148 | 7.89502E-05 | 6.01082E-05 | 5.6422E-05 | 0 |
| 0.00285832 | 0.003173726 | 0.001331754 | 0.001013922 | 0.000951741 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048927033 | 0.048206266 | 0.033621161 | 0.022760486 | 0.028332495 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.014957679 | 0.014737332 | 0.009969995 | 0.0069582 | 0.008661641 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241112 | 0.00023756 | 0.000160712 | 0.000112163 | 0.000139622 | 0 |
| 3.84612E-05 | 3.81424E-05 | 2.55817E-05 | 1.76819E-05 | 2.2296E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379586 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.41428E-05 | 2.65167E-05 | 2.32326E-05 | 1.37745E-05 | 1.2377E-05 | 0 |
| 1.87043E-05 | 3.50693E-05 | 3.0726E-05 | 1.82173E-05 | 1.63699E-05 | 0 |
| 8.32832E-05 | 0.00015615 | 0.000136811 | 8.11146E-05 | 7.28849E-05 | 0 |
| 1.9021E-06 | 3.56631E-06 | 3.12462E-06 | 1.85257E-06 | 1.66462E-06 | 0 |
| 0.000103953 | 0.000194905 | 0.000170766 | 0.000101246 | 9.09741E-05 | 0 |
| 5.8405E-07 | 1.09505E-06 | 9.5943E-07 | 5.68842E-07 | 5.11128E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 7.8713E-08 | 1.47581E-07 | 1.29303E-07 | 7.66634E-08 | 6.88853E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 6.59476E-07 | 1.23647E-06 | 1.08333E-06 | 6.42303E-07 | 5.77137E-07 | 0 |
| 0.000106871 | 0.000200376 | 0.000117556 | 0.000104088 | 9.35279E-05 | 0 |
| 3.00749E-07 | 5.63883E-07 | 4.94046E-07 | 2.92918E-07 | 2.63199E-07 | 0 |
| 1.36752E-05 | 2.56401E-05 | 2.24645E-05 | 1.33191E-05 | 1.19678E-05 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_57 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 1.36E-01 | 1.05E-01 | 6.89E-02 | 7.25E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42369E-05 | 1.12E-04 | 7.90E-05 | 5.39E-05 | 6.33E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103239 | 1.50E-04 | 9.95E-05 | 6.78E-05 | 8.10E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31094E-06 | 6.49E-05 | 4.85E-05 | 3.28E-05 | 3.51E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.89112E-05 | 2.04E-03 | 1.50E-03 | 1.06E-03 | 1.19E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.00017724 | 3.34E-03 | 2.44E-03 | 1.73E-03 | 1.99E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.00014849 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17621E-06 | 2.11E-05 | 2.46E-05 | 1.12E-05 | 1.24E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12181E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53799E-06 | 2.75E-05 | 2.43E-05 | 1.40E-05 | 1.59E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78024E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412427 | 7.78E-04 | 5.85E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001150937 | 1.08E-01 | 7.95E-02 | 6.04E-02 | 7.72E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure |
| Infant | media_Air | media_Soil | media_Soil | Media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — |
| Residential Exposure Scenario | af | af | af | ae | ae | ad | ad | ad | ad | ad | gw | gw | gw | ad | gw | — | — | — | u | u | u | u | u | ec | ec | ec | u | ec | — | — | — | i | i | i | i | i | bi | bi | bi | i | bi | — | — | — |
| Indigenous | y | y | y | x | x | w | w | w | w | w | es | es | es | w | es | — | — | — | n | n | n | n | n | by | by | by | n | by | — | — | — | e | e | e | e | e | e | e | e | e | e | — | — | — |
| Location 2 | 6 | 7 | 8 | 9 | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 45% | ac | ac | ac | ac | ac | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Fraction of Country food intake | — | — | — | — | — | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 45% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Intake Rate | 2.2 | 0.00002 | — | 0.3 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Body Weight | 8.2 | 8.2 | 8.2 | 8.2 | — | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| Days per year of country food consumption | 365 | — | — | — | — | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 |
| Hours per day | 24 | 24 | 24 | 24 | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hours outside per day | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Days per week | 7 | 7 | 7 | 7 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Weeks per year | 52 | 52 | 52 | 52 | 52 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area of Hands (cm²) | — | — | 320 | — | 320 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface Area, other (cm²) | — | — | 1460 | — | 1460 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Surface area, total (cm²) | — | — | 3620 | — | 3620 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, hands (g/cm²/event) | — | — | 0.0001 | — | 0.0001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil loading rate, other (g/cm²/event) | — | — | 0.00001 | — | 0.00001 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Soil exposure events per day | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact events per day | — | — | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Water contact event duration (h) | — | — | — | — | 0.5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unit Conversion Factor | 1.00E-03 | — | 1.00E-03 | — | 1.00E-03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter and Symbol | Parameter | Symbol | Average Daily Dose via Air Inhalation (mg/kg/d) | Average Daily Dose via Soil Ingestion (mg/kg/d) | Average Daily Dose via Soil Dermal Exposure (mg/kg) | Average Daily Dose via Water Ingestion (mg/kg/d) | Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — | Average Daily Dose Forage (mg/kg/d) | Average Daily Dose Berries (mg/kg/d) | Average Daily Dose Macrophytes (mg/kg/d) | Average Daily Dose Labrador Tea (mg/kg/d) | Average Daily Dose Root Vegetable (mg/kg/d) | Average Daily Dose Moose (mg/kg/d) | Average Daily Dose Mallard Duck (mg/kg/d) | Average Daily Dose Ruffed Grouse (mg/kg/d) | Average Daily Dose Generic Fish (mg/kg/d) | Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 5.58534E-05 | 1.64519E-05 | 3.8333E-05 | 0.022770401 | 0.002274928 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Antimony (Sb) | Antimony | Sb | 1.61613E-08 | 1.22734E-06 | 2.85971E-07 | 7.38164E-05 | 8.90718E-06 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Arsenic (As) | Arsenic | As | 6.75937E-08 | 8.23082E-06 | 5.75335E-07 | 8.42647E-05 | 1.01675E-05 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | 3.92393E-09 | 9.13236E-07 | 2.12784E-08 | 7.50126E-06 | 1.63535E-07 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cobalt (Co) | Cobalt | Co | 4.11787E-07 | 2.78124E-05 | 6.48029E-07 | 6.2860E-05 | 7.58571E-06 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Copper (Cu) | Copper | Cu | 1.44577E-07 | 6.01299E-05 | 8.40616E-06 | 9.69994E-05 | 1.17046E-05 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | 0.000132502 | 1.59886E-05 | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 9.50297E-10 | 9.59608E-08 | 2.23589E-08 | 2.72863E-06 | 3.25055E-07 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | 3.03181E-07 | 8.99964E-09 | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | — | 0 | — | — | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Silver (Ag) | Silver | Ag | 4.37976E-09 | 2.89491E-07 | 6.74514E-07 | 7.65079E-06 | 9.23196E-07 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Thallium (Tl) | Thallium | Tl | 1.12615E-09 | 6.11185E-07 | 1.42406E-06 | 2.29927E-05 | 2.77445E-06 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Uranium (U) | Uranium | U | 3.40727E-09 | 1.22137E-06 | 2.84579E-06 | 0.00036439 | 4.39697E-05 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |
| Zinc (Zn) | Zinc | Zn | 1.53714E-06 | 0.000164854 | 0.00038411 | 0.000537156 | 6.48168E-05 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | — |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_57 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025628668 | 0.136056158 | 0.10530655 | 0.068956106 | 0.072564723 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210632615 | 0.279134988 | 0.197611761 | 0.134784425 | 0.158339984 | 0 |
| Arsenic (As) | Arsenic | As | 0.344354776 | 0.499020466 | 0.332026957 | 0.226164093 | 0.270155433 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004314867 | 0.064904452 | 0.048546542 | 0.032815518 | 0.035105656 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.099322953 | **2.03864552** | **1.497858915** | **1.055596366** | **1.193446382** | 0 |
| Copper (Cu) | Copper | Cu | 0.001949282 | 0.036703582 | 0.026819014 | 0.0190039 | 0.021545731 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424526 | 0.020004452 | 0.015568433 | 0.010320818 | 0.011649433 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001059053 | 0.007049531 | 0.00821186 | 0.003733181 | 0.004139892 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156091 | 0.201203234 | 0.661412376 | 0.11640187 | 0.108585369 | 0 |
| Silver (Ag) | Silver | Ag | 0.001908475 | 0.005496194 | 0.004860767 | 0.002808003 | 0.003182511 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985964033** | **13.57799553** | **25.99793181** | **7.464061061** | **7.980413588** | 0 |
| Uranium (U) | Uranium | U | 0.068738319 | 0.129696513 | 0.09742496 | 0.063641271 | 0.069218866 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024005887 | **2.246201338** | **1.657268855** | **1.258851921** | **1.608401365** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1349 | 0.1134 | 0.0728 | 0.0839 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.9132** | **1.4428** | **1.0178** | **1.1488** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **11.6173** | **24.7001** | **6.5442** | **6.8675** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2212** | **1.6435** | **1.2488** | **1.5973** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 0.003783284 | 0.006624081 | 0.001164344 | 0.000741751 | 0.000660508 | 0 |
| 0.02935386 | 0.055946719 | 0.007910055 | 0.004627644 | 0.003999288 | 0 |
| 0.000934516 | 0.001831019 | 0.000239508 | 0.00013497 | 0.000114987 | 0 |
| 0.028460419 | 0.055763136 | 0.007294159 | 0.004110457 | 0.003501891 | 0 |
| 0.000753144 | 0.001381305 | 0.00021632 | 0.000132145 | 0.000115999 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94399E-05 | 6.90546E-05 | 1.2138E-05 | 7.73259E-06 | 6.88565E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192801 | 0.000214076 | 8.98302E-05 | 6.83916E-05 | 6.41974E-05 | 0 |
| 0.14537466 | 0.161416275 | 0.06773323 | 0.051568257 | 0.048405734 | 0 |
| 0.00067786 | 0.000752659 | 0.00031583 | 0.000240455 | 0.00022507 | 0 |
| 0.011436759 | 0.012698768 | 0.005328636 | 0.004056923 | 0.003808124 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206808927** | **0.202162223** | 0.138199694 | 0.097561902 | 0.119603438 | 0 |
| **0.314775503** | **0.30770304** | **0.210348231** | 0.148495073 | 0.182043613 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.070450747 | 0.068867818 | 0.047078585 | 0.033235069 | 0.040743655 | 0 |
| 0.001194549 | 0.001167709 | 0.000798255 | 0.000563527 | 0.000690841 | 0 |
| 0.007424526 | 0.007257702 | 0.004961422 | 0.003502051 | 0.004293809 | 0 |
| — | — | — | — | — | — |
| 0.001019296 | 0.000996394 | 0.000681143 | 0.000480852 | 0.000589488 | 0 |
| 0.000156091 | 0.000154459 | 0.000103895 | 7.20463E-05 | 9.0453E-05 | 0 |
| 0.001747498 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.012541104 | 0.012259324 | 0.008380571 | 0.005916253 | 0.007252875 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 5.58634E-05 | 0.000104721 | 9.17514E-05 | 5.4399E-05 | 4.88798E-05 | 0 |
| 4.04033E-05 | 7.57533E-05 | 6.63712E-05 | 3.93512E-05 | 3.53587E-05 | 0 |
| 0.000225312 | 0.000422445 | 0.000370125 | 0.000219445 | 0.000197181 | 0 |
| 3.92393E-06 | 7.3571E-06 | 6.44591E-06 | 3.82175E-06 | 3.434E-06 | 0 |
| 0.000411787 | 0.000772072 | 0.00067645 | 0.000401064 | 0.000360373 | 0 |
| 1.58876E-06 | 2.97882E-06 | 2.60989E-06 | 1.54739E-06 | 1.3904E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.16766E-07 | 5.93914E-07 | 5.20357E-07 | 3.08517E-07 | 2.77216E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.75951E-07 | 1.64235E-06 | 1.43894E-06 | 8.53142E-07 | 7.66584E-07 | 0 |
| 8.04394E-05 | 0.000150818 | 0.000132139 | 7.83448E-05 | 7.03961E-05 | 0 |
| 5.67878E-07 | 1.06473E-06 | 9.32865E-07 | 5.53091E-07 | 4.96976E-07 | 0 |
| 3.20237E-05 | 6.00422E-05 | 5.26099E-05 | 3.11898E-05 | 2.80254E-05 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Residential Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_58 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 1.17E-01 | 9.22E-02 | 5.97E-02 | 6.12E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99458E-05 | 4.81E-05 | 3.64E-05 | 2.38E-05 | 2.66E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45387E-05 | 6.67E-05 | 4.95E-05 | 3.26E-05 | 3.84E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 6.10E-05 | 4.66E-05 | 3.15E-05 | 3.35E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.37796E-05 | 1.94E-03 | 1.46E-03 | 1.03E-03 | 1.16E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.28469E-05 | 3.16E-03 | 2.37E-03 | 1.68E-03 | 1.93E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.5124E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52895E-07 | 1.87E-05 | 2.30E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.69203E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 2.03E-05 | 1.96E-05 | 1.07E-05 | 1.19E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000279632 | 1.07E-01 | 7.90E-02 | 6.01E-02 | 7.68E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_58 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.006063713 | 0.116934453 | 0.092189528 | 0.059670553 | 0.061251922 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.04987466 | 0.120145987 | 0.091095665 | 0.059393325 | 0.066542339 | 0 |
| Arsenic (As) | Arsenic | As | 0.08185205 | 0.22240095 | 0.165097846 | 0.108670658 | 0.128080918 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001033273 | 0.061012004 | 0.046638131 | 0.031490131 | 0.033526644 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.023882524 | **1.943795278** | **1.455910026** | **1.026739843** | **1.159456034** | 0 |
| Copper (Cu) | Copper | Cu | 0.004471243 | 0.034776057 | 0.0260449 | 0.018471548 | 0.021230471 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756202 | 0.01452108 | 0.014777602 | 0.00763528 | 0.008372598 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000251044 | 0.006238454 | 0.007681931 | 0.003358458 | 0.00368465 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84602E-05 | 0.201086916 | 0.661334062 | 0.116347505 | 0.108517211 | 0 |
| Silver (Ag) | Silver | Ag | 0.000454039 | 0.00405778 | 0.003916769 | 0.002135807 | 0.002376957 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471719138 | **12.08661088** | **25.00730077** | **6.759592714** | **7.131742314** | 0 |
| Uranium (U) | Uranium | U | 0.016268545 | 0.078462315 | 0.062437185 | 0.038824234 | 0.039010773 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.005833678 | **2.227295688** | **1.648229632** | **1.251249569** | **1.599989199** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.1109 | 0.0881 | 0.0568 | 0.0577 | 0 |
| 0 | 0.0703 | 0.0582 | 0.0364 | 0.0380 | 0 |
| 0 | 0.1349 | 0.1134 | 0.0728 | 0.0839 | 0 |
| 0 | 0.0598 | 0.0460 | 0.0311 | 0.0330 | 0 |
| 0 | **1.9132** | **1.4428** | **1.0178** | **1.1488** | 0 |
| 0 | 0.0342 | 0.0258 | 0.0183 | 0.0210 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0060 | 0.0075 | 0.0032 | 0.0035 | 0 |
| 0 | **0.2010** | **0.6613** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0036 | 0.0036 | 0.0019 | 0.0021 | 0 |
| 0 | **11.6173** | **24.7001** | **6.5442** | **6.8675** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **2.2212** | **1.6435** | **1.2488** | **1.5973** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000188286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807027 | 0.003495337 | 0 |
| 0.048918739 | 0.048198097 | 0.032606634 | 0.022756628 | 0.028327693 | 0 |
| 0.074457257 | 0.073360397 | 0.049629255 | 0.034636955 | 0.04311545 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.016664473 | 0.016418581 | 0.011107653 | 0.007752187 | 0.009650005 | 0 |
| 0.00028256 | 0.000278397 | 0.000188339 | 0.000131445 | 0.000163624 | 0 |
| 0.001756202 | 0.00173033 | 0.001170591 | 0.000816972 | 0.001016975 | 0 |
| — | — | — | — | — | — |
| 0.000241105 | 0.000237553 | 0.000160708 | 0.00011216 | 0.000139618 | 0 |
| 3.84602E-05 | 3.81414E-05 | 2.5581E-05 | 1.76814E-05 | 2.22953E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.002966482 | 0.002922782 | 0.0019773 | 0.001379586 | 0.00171782 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 1.39634E-05 | 2.61803E-05 | 2.29379E-05 | 1.35998E-05 | 1.222E-05 | 0 |
| 1.01008E-05 | 1.89383E-05 | 1.65928E-05 | 9.83779E-06 | 8.83967E-06 | 0 |
| 5.63281E-05 | 0.000105611 | 9.25312E-05 | 5.48613E-05 | 4.92952E-05 | 0 |
| 9.80982E-07 | 1.83927E-06 | 1.61148E-06 | 9.55438E-07 | 8.58501E-07 | 0 |
| 0.000102947 | 0.000193018 | 0.000169112 | 0.000100266 | 9.00932E-05 | 0 |
| 3.9719E-07 | 7.44704E-07 | 6.52472E-07 | 3.86848E-07 | 3.47599E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 7.91914E-08 | 1.48478E-07 | 1.30089E-07 | 7.71293E-08 | 6.93039E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.18988E-07 | 4.10587E-07 | 3.59736E-07 | 2.13286E-07 | 1.91646E-07 | 0 |
| 2.01098E-05 | 3.77046E-05 | 3.30348E-05 | 1.95862E-05 | 1.7599E-05 | 0 |
| 1.4197E-07 | 2.66163E-07 | 2.33216E-07 | 1.38273E-07 | 1.24244E-07 | 0 |
| 8.00592E-06 | 1.50106E-05 | 1.31515E-05 | 7.79745E-06 | 7.00634E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_59 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 2.56E-02 | 6.09E-02 | 4.89E-02 | 3.08E-02 | 3.46E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 8.42427E-05 | 1.07E-04 | 7.53E-05 | 5.13E-05 | 6.06E-05 | 0 |
| Arsenic (As) | Arsenic | As | 0.000103239 | 1.43E-04 | 9.45E-05 | 6.41E-05 | 7.67E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 4.31094E-06 | 6.31E-05 | 4.72E-05 | 3.18E-05 | 3.39E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 9.33899E-05 | 1.86E-03 | 1.36E-03 | 9.60E-04 | 1.08E-03 | 0 |
| Copper (Cu) | Copper | Cu | 0.000189801 | 3.36E-03 | 2.46E-03 | 1.74E-03 | 2.00E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.000148488 | 4.01E-04 | 3.71E-04 | 2.06E-04 | 2.33E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 3.17526E-06 | 1.90E-05 | 2.30E-05 | 1.01E-05 | 1.11E-05 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.12084E-07 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 9.53799E-06 | 2.60E-05 | 2.32E-05 | 1.32E-05 | 1.49E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 2.78024E-05 | 1.90E-04 | 3.64E-04 | 1.04E-04 | 1.12E-04 | 0 |
| Uranium (U) | Uranium | U | 0.000412427 | 7.78E-04 | 5.84E-04 | 3.82E-04 | 4.15E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.001189546 | 8.71E-02 | 6.43E-02 | 4.88E-02 | 6.23E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_59 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.025572815 | 0.060897577 | 0.048946249 | 0.030811971 | 0.034550669 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.210611368 | 0.266476924 | 0.188149087 | 0.12821838 | 0.151390681 | 0 |
| Arsenic (As) | Arsenic | As | 0.34417328 | 0.476063401 | 0.314955734 | 0.213795183 | 0.255769066 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.004312346 | 0.063059124 | 0.047181749 | 0.031803941 | 0.033879571 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.093432538 | **1.858926561** | **1.362777063** | 0.95985719 | **1.084416695** | 0 |
| Copper (Cu) | Copper | Cu | 0.002086747 | 0.036939019 | 0.027035897 | 0.019129295 | 0.022007745 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.007424409 | 0.020047672 | 0.015567803 | 0.010203392 | 0.011648907 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.001058469 | 0.006336444 | 0.007681266 | 0.003351766 | 0.003703054 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0.000156042 | 0.201140841 | 0.661207276 | 0.116365774 | 0.108551696 | 0 |
| Silver (Ag) | Silver | Ag | 0.001907687 | 0.0051960111 | 0.004638949 | 0.002842334 | 0.002978773 | 0 |
| Thallium (Tl) | Thallium | Tl | **1.985950667** | **13.574994** | **25.99571833** | **7.46236893** | **7.978241104** | 0 |
| Uranium (U) | Uranium | U | 0.068738065 | 0.129678598 | 0.097411481 | 0.063532126 | 0.069209634 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.024787473 | **1.814503714** | **1.340235058** | **1.016132786** | **1.297871909** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 5.47849E-05 | 6.08302E-05 | 2.55255E-05 | 1.94337E-05 | 1.82419E-05 | 0 |
| 0.003783284 | 0.006624081 | 0.001164344 | 0.000741751 | 0.000660508 | 0 |
| 0.02935386 | 0.055946719 | 0.007910055 | 0.004627644 | 0.003999288 | 0 |
| 0.000934516 | 0.001831019 | 0.000239508 | 0.00013497 | 0.000114987 | 0 |
| 0.028464419 | 0.055763136 | 0.007294159 | 0.004110457 | 0.003501891 | 0 |
| 0.000753144 | 0.001381305 | 0.00021632 | 0.000132145 | 0.000115999 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 3.94399E-05 | 6.90546E-05 | 1.2138E-05 | 7.73259E-06 | 6.88565E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0.000192801 | 0.000214076 | 8.98302E-05 | 6.83916E-05 | 6.41974E-05 | 0 |
| 0.14537466 | 0.161416275 | 0.06773323 | 0.051568257 | 0.048405734 | 0 |
| 0.00067786 | 0.000752659 | 0.00031583 | 0.000240455 | 0.000225708 | 0 |
| 0.011436759 | 0.012698768 | 0.005328636 | 0.004056923 | 0.003808124 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.02551803 | 0.024944676 | 0.017052378 | 0.012038105 | 0.014757797 | 0 |
| **0.206823389** | **0.20217636** | 0.138209358 | 0.097568725 | 0.119611802 | 0 |
| **0.314777307** | **0.307704705** | **0.21034937** | 0.148495876 | 0.182044598 | 0 |
| 0.003376427 | 0.003300563 | 0.002256291 | 0.001592826 | 0.001952683 | 0 |
| 0.064929474 | 0.0634706 | 0.043389004 | 0.030630413 | 0.037550547 | 0 |
| 0.001332587 | 0.001302645 | 0.000890499 | 0.000628646 | 0.000770673 | 0 |
| 0.007424409 | 0.007257593 | 0.004961348 | 0.003502457 | 0.004293745 | 0 |
| — | — | — | — | — | — |
| 0.00101898 | 0.000996085 | 0.000680932 | 0.000480703 | 0.000589305 | 0 |
| 0.000160042 | 0.000154411 | 0.000103863 | 7.2024E-05 | 9.04249E-05 | 0 |
| 0.001174798 | 0.001676269 | 0.001145911 | 0.000808564 | 0.000991716 | 0 |
| **1.840508934** | **1.799155296** | **1.229916786** | **0.868258228** | **1.064418248** | 0 |
| 0.068059892 | 0.066530682 | 0.0454809 | 0.032107185 | 0.039360956 | 0 |
| 0.013345447 | 0.013045594 | 0.008918071 | 0.006295701 | 0.007718049 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.69512E-06 | 8.80303E-06 | 7.71277E-06 | 4.57286E-06 | 4.10891E-06 | 0 |
| 4.21128E-05 | 7.89585E-05 | 6.91794E-05 | 4.10162E-05 | 3.68548E-05 | 0 |
| 1.40334E-06 | 2.63116E-06 | 2.30529E-06 | 1.36668E-06 | 1.22812E-06 | 0 |
| 4.26447E-05 | 7.99559E-05 | 7.00533E-05 | 4.15343E-05 | 3.73203E-05 | 0 |
| 1.01661E-06 | 1.90607E-06 | 1.67E-06 | 9.90137E-07 | 8.8968E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 4.91183E-08 | 9.20934E-08 | 8.06875E-08 | 4.78393E-08 | 4.29656E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 8.81553E-08 | 1.65285E-07 | 1.44814E-07 | 8.58598E-08 | 7.71487E-08 | 0 |
| 6.70732E-05 | 0.000125758 | 0.000110182 | 6.53266E-05 | 5.86987E-05 | 0 |
| 3.13008E-07 | 5.86869E-07 | 5.14184E-07 | 3.04858E-07 | 2.73927E-07 | 0 |
| 5.26678E-06 | 9.87485E-06 | 8.65184E-06 | 5.12964E-06 | 4.6092E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media | raf_10H Concentration Media |
| Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| media_Air | media_Soil | media_Soil | Media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | --- | --- | --- | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | --- | --- | --- | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | --- | --- | --- |
| ag | ag | ag | af | af | ae | ae | ae | ae | ae | he | he | he | ae | he | --- | --- | --- | v | v | v | v | v | ek | ek | ek | v | ek | --- | --- | --- | m | m | m | m | m | bq | bq | bq | m | bq | --- | --- | --- |
| y | y | y | x | x | w | w | w | w | w | es | es | es | w | es | --- | --- | --- | n | n | n | n | n | by | by | by | n | by | --- | --- | --- | e | e | e | e | e | e | e | e | e | e | --- | --- | --- |
| 6 | 7 | 8 | 9 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ad | ad | ad | ad | ad | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| Source of TRV Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD | RFD |

| Parameter and Symbol | Parameter | Symbol | Risk via Air Inhalation | Risk via Soil Ingestion Concentration | Risk via Soil Dermal Exposure | Risk via Water Ingestion | Risk via Water Dermal Exposure | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | --- | --- | --- | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | --- | --- | --- | Risk via Ingestion of Forage | Risk via Ingestion of Berries | Risk via Ingestion of Macrophytes | Risk via Ingestion of Labrador Tea | Risk via Ingestion of Root Vegetable | Risk via Ingestion of Moose | Risk via Ingestion of Mallard Duck | Risk via Ingestion of Ruffed Grouse | Risk via Ingestion of Generic Fish | Risk via Ingestion of Snowshoe Hare | --- | --- | --- |
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| Aluminum (Al) | Aluminum | Al | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Antimony (Sb) | Antimony | Sb | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Arsenic (As) | Arsenic | As | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cadmium (Cd) | Cadmium | Cd | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cobalt (Co) | Cobalt | Co | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Copper (Cu) | Copper | Cu | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cyanide (CN-) | Cyanide | CN- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Lead (Pb) | Lead | Pb | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mercury (Hg) | Mercury | Hg | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Silver (Ag) | Silver | Ag | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Thallium (Tl) | Thallium | Tl | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Uranium (U) | Uranium | U | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zinc (Zn) | Zinc | Zn | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| | |
|---|---|
| Model_60 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 4.19E-02 | 3.59E-02 | 2.16E-02 | 2.33E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99472E-05 | 4.30E-05 | 3.27E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45388E-05 | 5.99E-05 | 4.45E-05 | 2.89E-05 | 3.41E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 5.92E-05 | 4.53E-05 | 3.05E-05 | 3.23E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.24736E-05 | 1.77E-03 | 1.32E-03 | 9.33E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.58182E-05 | 3.18E-03 | 2.38E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.51235E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52671E-07 | 1.66E-05 | 2.15E-05 | 8.93E-06 | 9.74E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.68965E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 1.88E-05 | 1.85E-05 | 9.85E-06 | 1.09E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000288765 | 8.62E-02 | 6.38E-02 | 4.84E-02 | 6.19E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_60 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00604975 | 0.0418544413 | 0.035898041 | 0.021567218 | 0.023274528 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049869154 | 0.107527369 | 0.081669601 | 0.052848133 | 0.059610091 | 0 |
| Arsenic (As) | Arsenic | As | 0.081806653 | 0.199700231 | 0.148251462 | 0.096434953 | 0.113814044 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032642 | 0.059170221 | 0.045276443 | 0.030480395 | 0.032302213 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.022484232 | **1.768471957** | **1.324102839** | 0.933257426 | **1.053105467** | 0 |
| Copper (Cu) | Copper | Cu | 0.000503751 | 0.034909532 | 0.026192009 | 0.018547431 | 0.021331937 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756175 | 0.014520383 | 0.014777028 | 0.007634894 | 0.008372121 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250903 | 0.005525979 | 0.007151829 | 0.002977354 | 0.003248127 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84482E-05 | 0.201024559 | 0.661128986 | 0.116311426 | 0.108483559 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453842 | 0.003758706 | 0.003699921 | 0.001970713 | 0.002173736 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471715796 | **12.08362414** | **25.00510376** | **6.757909547** | **7.129578602** | 0 |
| Uranium (U) | Uranium | U | 0.016268481 | 0.078444759 | 0.06242402 | 0.038533475 | 0.039001708 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.006017249 | **1.795036877** | **1.329418137** | **1.008239938** | **1.269122306** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000189286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.04892216 | 0.048201467 | 0.032608914 | 0.02275822 | 0.028329674 | 0 |
| 0.07445766 | 0.073360794 | 0.049629523 | 0.034637142 | 0.043116683 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.015358466 | 0.015132215 | 0.010237138 | 0.007144643 | 0.008893727 | 0 |
| 0.000315211 | 0.000310568 | 0.000210103 | 0.000146634 | 0.000182531 | 0 |
| 0.001756175 | 0.001730304 | 0.001170573 | 0.000816569 | 0.00101696 | 0 |
| — | — | — | — | — | — |
| 0.00024103 | 0.00023748 | 0.000160658 | 0.000112125 | 0.000139575 | 0 |
| 3.84482E-05 | 3.81256E-05 | 2.55731E-05 | 1.76759E-05 | 2.22884E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.003156742 | 0.003110239 | 0.002104117 | 0.001468493 | 0.001827995 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_61 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 4.19E-02 | 3.59E-02 | 2.16E-02 | 2.33E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99472E-05 | 4.30E-05 | 3.27E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45388E-05 | 5.99E-05 | 4.45E-05 | 2.89E-05 | 3.41E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 5.92E-05 | 4.53E-05 | 3.05E-05 | 3.23E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.24736E-05 | 1.77E-03 | 1.32E-03 | 9.33E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.58182E-05 | 3.18E-03 | 2.38E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.51235E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52671E-07 | 1.66E-05 | 2.15E-05 | 8.93E-06 | 9.74E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.68965E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 1.88E-05 | 1.85E-05 | 9.85E-06 | 1.09E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000288765 | 8.62E-02 | 6.38E-02 | 4.84E-02 | 6.19E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_61 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00604975 | 0.041854413 | 0.035898041 | 0.021567218 | 0.023274528 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049869154 | 0.107527369 | 0.081669601 | 0.052848133 | 0.059610091 | 0 |
| Arsenic (As) | Arsenic | As | 0.081806653 | 0.199700231 | 0.148251462 | 0.096434953 | 0.113814044 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032642 | 0.059170221 | 0.045276443 | 0.030480395 | 0.032302213 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.022484232 | **1.768471957** | **1.324102839** | 0.933257426 | **1.053105467** | 0 |
| Copper (Cu) | Copper | Cu | 0.000503751 | 0.034909532 | 0.026192009 | 0.018547431 | 0.021331937 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756175 | 0.014520383 | 0.014777028 | 0.007634894 | 0.008372121 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250903 | 0.005525979 | 0.007151829 | 0.002977354 | 0.003248127 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84482E-05 | 0.201024559 | 0.661128986 | 0.116311426 | 0.108483559 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453842 | 0.003758706 | 0.003699921 | 0.001970713 | 0.002173736 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471715796 | **12.08362414** | **25.00510376** | **6.757909547** | **7.129578602** | 0 |
| Uranium (U) | Uranium | U | 0.016268481 | 0.078444759 | 0.06242402 | 0.038533475 | 0.039001708 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.006017249 | **1.795036877** | **1.329418137** | **1.008239938** | **1.269122306** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000188286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048922216 | 0.048201467 | 0.032608914 | 0.02275822 | 0.028329674 | 0 |
| 0.07445766 | 0.073360794 | 0.049629523 | 0.034637142 | 0.043116683 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.015358466 | 0.015132215 | 0.010237138 | 0.007144643 | 0.008893727 | 0 |
| 0.000315211 | 0.000310568 | 0.000210103 | 0.000146634 | 0.000182531 | 0 |
| 0.001756175 | 0.001730304 | 0.001170573 | 0.000816569 | 0.00101696 | 0 |
| — | — | — | — | — | — |
| 0.00024103 | 0.00023748 | 0.000160658 | 0.000112125 | 0.000139575 | 0 |
| 3.84482E-05 | 3.81256E-05 | 2.55731E-05 | 1.76759E-05 | 2.22884E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.003156742 | 0.003110239 | 0.002104117 | 0.001468493 | 0.001827995 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_62 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 6.05E-03 | 4.19E-02 | 3.59E-02 | 2.16E-02 | 2.33E-02 | 0 |
| Antimony (Sb) | Antimony | Sb | 1.99472E-05 | 4.30E-05 | 3.27E-05 | 2.11E-05 | 2.38E-05 | 0 |
| Arsenic (As) | Arsenic | As | 2.45388E-05 | 5.99E-05 | 4.45E-05 | 2.89E-05 | 3.41E-05 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 1.03229E-06 | 5.92E-05 | 4.53E-05 | 3.05E-05 | 3.23E-05 | 0 |
| Cobalt (Co) | Cobalt | Co | 2.24736E-05 | 1.77E-03 | 1.32E-03 | 9.33E-04 | 1.05E-03 | 0 |
| Copper (Cu) | Copper | Cu | 4.58182E-05 | 3.18E-03 | 2.38E-03 | 1.69E-03 | 1.94E-03 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 3.51235E-05 | 2.90E-04 | 2.96E-04 | 1.53E-04 | 1.67E-04 | 0 |
| Lead (Pb) | Lead | Pb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Mercury (Hg) | Mercury | Hg | 7.52671E-07 | 1.66E-05 | 2.15E-05 | 8.93E-06 | 9.74E-06 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 7.68965E-08 | 4.02E-04 | 1.32E-03 | 2.33E-04 | 2.17E-04 | 0 |
| Silver (Ag) | Silver | Ag | 2.2691E-06 | 1.88E-05 | 1.85E-05 | 9.85E-06 | 1.09E-05 | 0 |
| Thallium (Tl) | Thallium | Tl | 6.60379E-06 | 1.69E-04 | 3.50E-04 | 9.46E-05 | 9.98E-05 | 0 |
| Uranium (U) | Uranium | U | 9.76104E-05 | 4.71E-04 | 3.75E-04 | 2.33E-04 | 2.34E-04 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.000288765 | 8.62E-02 | 6.38E-02 | 4.84E-02 | 6.19E-02 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_62 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00604975 | 0.041854413 | 0.035898041 | 0.021567218 | 0.023274528 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.049869154 | 0.107527369 | 0.081669601 | 0.052848133 | 0.059610091 | 0 |
| Arsenic (As) | Arsenic | As | 0.081806653 | 0.199700231 | 0.148251462 | 0.096434953 | 0.113814044 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.001032642 | 0.059170221 | 0.045276443 | 0.030480395 | 0.032302213 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.022484232 | **1.768471957** | **1.324102839** | 0.933257426 | **1.053105467** | 0 |
| Copper (Cu) | Copper | Cu | 0.000503751 | 0.034909532 | 0.026192009 | 0.018547431 | 0.021331937 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.001756175 | 0.014520383 | 0.014777028 | 0.007634894 | 0.008372121 | 0 |
| Lead (Pb) | Lead | Pb | — | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | 0.000250903 | 0.005525979 | 0.007151829 | 0.002977354 | 0.003248127 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 3.84482E-05 | 0.201024559 | 0.661128986 | 0.116311426 | 0.108483559 | 0 |
| Silver (Ag) | Silver | Ag | 0.000453842 | 0.003758706 | 0.003699921 | 0.001970713 | 0.002173736 | 0 |
| Thallium (Tl) | Thallium | Tl | 0.471715796 | **12.08362414** | **25.00510376** | **6.757909547** | **7.129578602** | 0 |
| Uranium (U) | Uranium | U | 0.016268481 | 0.078444759 | 0.06242402 | 0.038533475 | 0.039001708 | 0 |
| Zinc (Zn) | Zinc | Zn | 0.006017249 | **1.795036877** | **1.329418137** | **1.008239938** | **1.269122306** | 0 |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| 0 | 0.0359 | 0.0319 | 0.0188 | 0.0198 | 0 |
| 0 | 0.0577 | 0.0488 | 0.0299 | 0.0311 | 0 |
| 0 | 0.1123 | 0.0966 | 0.0606 | 0.0697 | 0 |
| 0 | 0.0579 | 0.0447 | 0.0301 | 0.0318 | 0 |
| 0 | **1.7394** | **1.3120** | **0.9251** | **1.0433** | 0 |
| 0 | 0.0343 | 0.0259 | 0.0184 | 0.0211 | 0 |
| 0 | 0.0128 | 0.0136 | 0.0068 | 0.0074 | 0 |
| — | — | — | — | — | — |
| 0 | 0.0053 | 0.0070 | 0.0029 | 0.0031 | 0 |
| 0 | **0.2010** | **0.6611** | 0.1163 | 0.1085 | 0 |
| 0 | 0.0033 | 0.0034 | 0.0018 | 0.0019 | 0 |
| 0 | **11.6143** | **24.6980** | **6.5425** | **6.8654** | 0 |
| 0 | 0.0624 | 0.0516 | 0.0313 | 0.0296 | 0 |
| 0 | **1.7887** | **1.3260** | **1.0058** | **1.2863** | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| 1.36962E-05 | 1.52076E-05 | 6.38137E-06 | 4.85842E-06 | 4.56046E-06 | 0 |
| 0.000945821 | 0.00165602 | 0.000291086 | 0.000185438 | 0.000165127 | 0 |
| 0.007338465 | 0.01398668 | 0.001977514 | 0.001156911 | 0.000999822 | 0 |
| 0.000233629 | 0.000457755 | 5.98771E-05 | 3.37424E-05 | 2.87467E-05 | 0 |
| 0.007115105 | 0.013940784 | 0.00182354 | 0.001027614 | 0.000875473 | 0 |
| 0.000188286 | 0.000345326 | 5.40801E-05 | 3.30362E-05 | 2.89998E-05 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 9.85997E-06 | 1.72636E-05 | 3.03451E-06 | 1.93315E-06 | 1.72141E-06 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 4.82002E-05 | 5.3519E-05 | 2.24575E-05 | 1.70979E-05 | 1.60493E-05 | 0 |
| 0.036343665 | 0.040354069 | 0.016933308 | 0.012892064 | 0.012101433 | 0 |
| 0.000169465 | 0.000188165 | 7.89574E-05 | 6.01137E-05 | 5.64271E-05 | 0 |
| 0.00285919 | 0.003174692 | 0.001332159 | 0.001014231 | 0.000952031 | 0 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| 0.006036054 | 0.005947134 | 0.004023313 | 0.002807927 | 0.003495337 | 0 |
| 0.048922216 | 0.048201467 | 0.032608914 | 0.02275822 | 0.028329674 | 0 |
| 0.07445766 | 0.073360794 | 0.049629523 | 0.034637142 | 0.043116683 | 0 |
| 0.000788662 | 0.000786897 | 0.000532346 | 0.000371532 | 0.000462487 | 0 |
| 0.015358466 | 0.015132215 | 0.010237138 | 0.007144643 | 0.008893727 | 0 |
| 0.000315211 | 0.000310568 | 0.000210103 | 0.000146634 | 0.000182531 | 0 |
| 0.001756175 | 0.001730304 | 0.001170573 | 0.000816569 | 0.00101696 | 0 |
| — | — | — | — | — | — |
| 0.00024103 | 0.00023748 | 0.000160658 | 0.000112125 | 0.000139575 | 0 |
| 3.84482E-05 | 3.81256E-05 | 2.55731E-05 | 1.76759E-05 | 2.22884E-05 | 0 |
| 0.00040562 | 0.000399644 | 0.000270364 | 0.000188691 | 0.000234885 | 0 |
| **0.435355363** | **0.428941966** | **0.290184771** | **0.202524033** | **0.252104072** | 0 |
| 0.016098938 | 0.015861778 | 0.010730697 | 0.007489105 | 0.009322517 | 0 |
| 0.003156742 | 0.003110239 | 0.002104117 | 0.001468493 | 0.001827995 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1.17378E-06 | 2.20076E-06 | 1.92819E-06 | 1.14322E-06 | 1.02723E-06 | 0 |
| 1.05282E-05 | 1.97396E-05 | 1.72949E-05 | 1.0254E-05 | 9.21369E-06 | 0 |
| 3.50835E-07 | 6.57791E-07 | 5.76323E-07 | 3.41699E-07 | 3.07031E-07 | 0 |
| 1.06612E-05 | 1.9989E-05 | 1.75133E-05 | 1.03836E-05 | 9.33008E-06 | 0 |
| 2.54152E-07 | 4.76518E-07 | 4.17501E-07 | 2.47534E-07 | 2.2242E-07 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| — | — | — | — | — | — |
| 1.22796E-08 | 2.30233E-08 | 2.01719E-08 | 1.19598E-08 | 1.07464E-08 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2.20388E-08 | 4.13213E-08 | 3.62036E-08 | 2.1465E-08 | 1.92872E-08 | 0 |
| 1.67683E-05 | 3.14394E-05 | 2.75456E-05 | 1.63317E-05 | 1.46747E-05 | 0 |
| 7.8252E-08 | 1.46717E-07 | 1.28546E-07 | 7.62144E-08 | 6.84818E-08 | 0 |
| 1.3167E-06 | 2.46871E-06 | 2.16296E-06 | 1.28241E-06 | 1.1523E-06 | 0 |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Visitor/Harvestor Exposure Scenario** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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| | |
|---|---|
| Model_63 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103054 | 3.76E-04 | 2.52E-04 | 1.70E-04 | 1.82E-04 | 2.15813E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_63 | Model Simulation |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15985.43597 | 894042.6682 | 1206292.285 | 4781198.094 | 3809959.704 | 27286.80275 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Model_64 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 1.63576E-08 | 6.44E-05 | 4.78E-05 | 3.45E-05 | 3.98E-05 | 1.03162E-08 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_64 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2248494.025 | 2217657933.9 | 301372132.8 | 1184728800 | 941157241.3 | 1722050.446 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_65 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 2.51913E-07 | 6.57E-05 | 4.84E-05 | 3.50E-05 | 4.04E-05 | 1.58873E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_65 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 5.53831E+17 | 3.3022E+19 | 1.16109E+19 | 1.71603E+20 | 1.83192E+20 | 8.98956E+18 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_66 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 2.68308E-07 | 6.57E-05 | 4.85E-05 | 3.50E-05 | 4.04E-05 | 1.69213E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_66 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 184752.8603 | 13590030.12 | 18462860.96 | 72612518.5 | 57729856.43 | 185722.5002 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 0 | 13379422.9629 | 18184412.0607 | 71519249.5559 | 56565835.3068 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 1370053.0124 | 185166.3068 | 249411.7683 | 946343.5652 | 1000505.819 | 104938.1541 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 47699.84793 | 25440.85336 | 29037.13199 | 146925.3759 | 163515.303 | 80784.34611 |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_67 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 4.88584E-06 | 1.67E-05 | 1.21E-05 | 8.08E-06 | 8.58E-06 | 5.75383E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Model_67 | Model Simulation |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 139070.8544 | 16550902.07 | 22368515.49 | 88424786.42 | 70402296.75 | 137690.9325 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 2** | **Study Area** |
| **Project Only** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_68 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.00010307 | 4.28E-04 | 2.90E-04 | 1.98E-04 | 2.16E-04 | 2.15916E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_68 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2633.812388 | 204127.7924 | 276041.7626 | 1090646.517 | 868548.5095 | 4675.574223 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 0 | 201345.1174 | 272412.4241 | 1076193.7889 | 853132.2312 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 1593.297042 | 2152.83367 | 2899.513303 | 11001.62906 | 11631.2873 | 1219.948746 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 116.4818038 | 137.2053388 | 167.3226676 | 604.8845326 | 617.3996964 | 1890.684525 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 924.0335415 | 492.8359911 | 562.5025041 | 2846.214009 | 3167.591325 | 1564.940952 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_69 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103306 | 4.38E-04 | 2.97E-04 | 2.03E-04 | 2.20E-04 | 2.17402E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
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| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_69 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2134.849073 | 207588.2081 | 274934.8286 | 1108199.896 | 890165.9237 | 3845.489789 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_70 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103322 | 4.38E-04 | 2.97E-04 | 2.03E-04 | 2.20E-04 | 2.17505E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_70 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2617.334158 | 207962.0283 | 275386.9562 | 1110299.969 | 892281.8585 | 4663.632227 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 0 | 205202.2111 | 271788.4860 | 1095963.8044 | 876988.6902 | 0 |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_71 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.00010794 | 3.93E-04 | 2.64E-04 | 1.78E-04 | 1.91E-04 | 2.21567E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_71 | Model Simulation |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15960.74322 | 760064.559 | 1024590.937 | 4065008.891 | 3242728.319 | 27169.57849 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |

| Infant risk via Ingestion of Country Foods | Toddler risk via Ingestion of Country Foods | Child risk via Ingestion of Country Foods | Teen risk via Ingestion of Country Foods | Adult risk via Ingestion of Country Foods | Worker risk via Ingestion of Country Foods |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 0 | 750192.0931 | 1012874.9711 | 4009585.7040 | 3181705.7846 | 0 |

| Infant Risk via Soil Contact | Toddler Risk via Soil Contact | Child Risk via Soil Contact | Teen Risk via Soil Contact | Adult Risk via Soil Contact | Worker Risk via Soil Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 1576.091399 | 2129.38788 | 2868.202135 | 10882.82503 | 11505.68374 | 1206.774804 |

| Infant Risk via Water Contact | Toddler Risk via Water Contact | Child Risk via Water Contact | Teen Risk via Water Contact | Adult Risk via Water Contact | Worker Risk via Water Contact |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 110.1247504 | 129.717288 | 158.1909484 | 571.872653 | 583.7047954 | 1787.49946 |

| Infant Risk via Inhalation | Toddler Risk via Inhalation | Child Risk via Inhalation | Teen Risk via Inhalation | Adult Risk via Inhalation | Worker Risk via Inhalation |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| 14274.52707 | 7613.360748 | 8689.573331 | 43968.48933 | 48933.1459 | 24175.30422 |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_72 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103054 | 3.76E-04 | 2.52E-04 | 1.70E-04 | 1.82E-04 | 2.15813E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_72 | Model Simulation |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15985.43597 | 894042.6682 | 1206292.285 | 4781198.094 | 3809959.704 | 27286.80275 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_73 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 1.63576E-08 | 6.44E-05 | 4.78E-05 | 3.45E-05 | 3.98E-05 | 1.03162E-08 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_73 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2248452.268 | 221765771.7 | 301372107.3 | 1184728671 | 941157098.2 | 1721979.727 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_74 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 2.51913E-07 | 6.57E-05 | 4.84E-05 | 3.50E-05 | 4.04E-05 | 1.58873E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_74 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 5.53831E+17 | 3.3022E+19 | 1.10109E+19 | 1.71003E+20 | 1.83192E+20 | 8.98956E+18 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_75 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 2.68308E-07 | 6.57E-05 | 4.85E-05 | 3.50E-05 | 4.04E-05 | 1.69213E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_75 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 180210.2851 | 13587607.33 | 18460095.68 | 72598526.43 | 57714284.46 | 178029.2059 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project Only** | **Scenario** |
| **Closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_76 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 4.88584E-06 | 1.67E-05 | 1.21E-05 | 8.08E-06 | 8.58E-06 | 5.75383E-07 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH | ref_HH | ref_HH

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH | ref_HH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Media | Concentration Media | Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Model_76 | Model Simulation |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 139070.8544 | 16550902.07 | 22368515.49 | 88424786.42 | 70402296.75 | 137690.9325 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Post-closure | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_77 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.00010307 | 4.28E-04 | 2.90E-04 | 1.98E-04 | 2.16E-04 | 2.15916E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_77 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2717.353211 | 204172.3492 | 276092.6178 | 1090903.839 | 868834.8878 | 4817.058759 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_78 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103306 | 4.38E-04 | 2.97E-04 | 2.03E-04 | 2.20E-04 | 2.17402E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
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| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_78 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2181.080505 | 207612.8653 | 274962.7713 | 1108342.296 | 890324.4022 | 3923.765706 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Operations** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

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|---|---|
| Model_79 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.000103322 | 4.38E-04 | 2.97E-04 | 2.03E-04 | 2.20E-04 | 2.17505E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_79 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 2701.689821 | 208007.0196 | 275438.3074 | 1110559.801 | 892571.0301 | 4806.496774 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Model_80 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.00010794 | 3.93E-04 | 2.64E-04 | 1.78E-04 | 1.91E-04 | 2.21567E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Model_80 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15960.74322 | 760064.559 | 1024590.937 | 4065008.891 | 3242728.319 | 27169.57849 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

| | | |

| | |
|---|---|
| Model_81 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Average Daily Dose (mg/kg/d) | Toddler Sum of Average Daily Dose (mg/kg/d) | Child Sum of Average Daily Dose (mg/kg/d) | Teen Sum of Average Daily Dose (mg/kg/d) | Adult Sum of Average Daily Dose (mg/kg/d) | Worker Sum of Average Daily Dose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Antimony (Sb) | Antimony | Sb | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Arsenic (As) | Arsenic | As | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cobalt (Co) | Cobalt | Co | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Copper (Cu) | Copper | Cu | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Lead (Pb) | Lead | Pb | 0.00010794 | 3.93E-04 | 2.64E-04 | 1.78E-04 | 1.91E-04 | 2.21567E-05 |
| Mercury (Hg) | Mercury | Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Silver (Ag) | Silver | Ag | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Thallium (Tl) | Thallium | Tl | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Uranium (U) | Uranium | U | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| Zinc (Zn) | Zinc | Zn | 0 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0 |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | —

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | ref_HH | ref_HH | ref_HH

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Worker | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Model_81 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| Parameter and Symbol | Parameter | Symbol | Infant Sum of Risks for All Pathways | Toddler Sum of Risks for All Pathways | Child Sum of Risks for All Pathways | Teen Sum of Risks for All Pathways | Adult Sum of Risks for All Pathways | Worker Sum of Risks for All Pathways |
|---|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | — | — | — | — | — | — |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | 15960.74322 | 760064.559 | 1024590.937 | 4065008.891 | 3242728.319 | 27169.57849 |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — |
| — | — | —

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Infant | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

| | | |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media |

| | |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |

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|---|---|
| **Location 3** | **Study Area** |
| **Project** | **Scenario** |
| **Post-closure** | **Project Phase** |
| **Worker** | **Receptor** |
| **Exposure Scenario for Lead** | **Exposure Scenario** |
| **Indigenous** | **Exposure Group** |
| **Location 2** | **Secondary Study Area for Country Foods** |
| **45%** | **Fraction of Country foods from Secondary Area** |
| **Location 1** | **Tertiary Study Area for Country Foods** |
| **5%** | **Fraction of Country foods from Tertiary Area** |

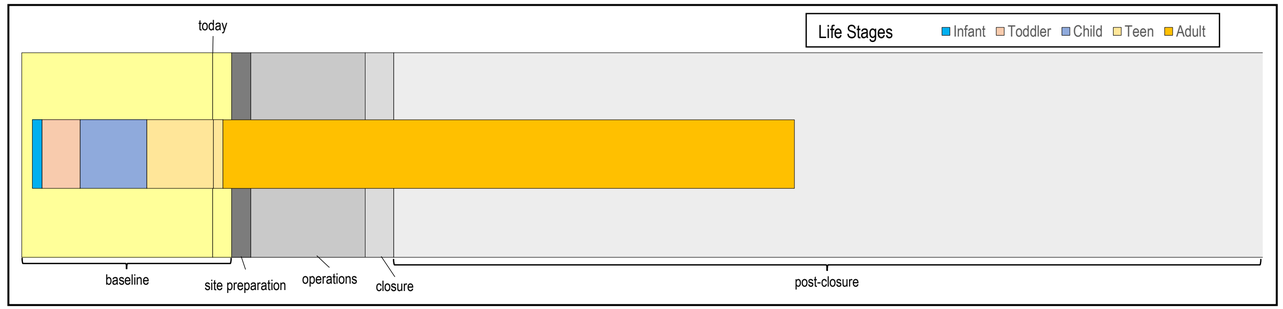
| | | |

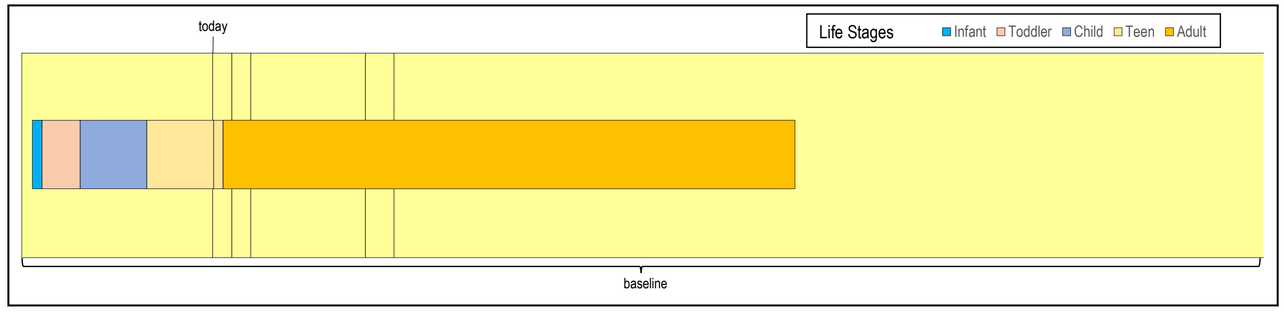
# Cancer Model Outputs

| | | |
|---|---|---|
| Cancer_1 | Model Simulation | Cancer_1 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| -19 | OffSet (years) | 1 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | -19 |
|---|---|



| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| — | — | — | — | — | — | — | — |

| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — |

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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
| v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v |

| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** | **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 |
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| | Cancer_1 | Model |
| | Location 1 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| — | Years Exposed for this page |
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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 80 | life expectancy |

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| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_1 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_1 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 80 | life expectancy |

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| Cancer_1 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_1 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_2 | Model Simulation | Cancer_2 |
|---|---|---|
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
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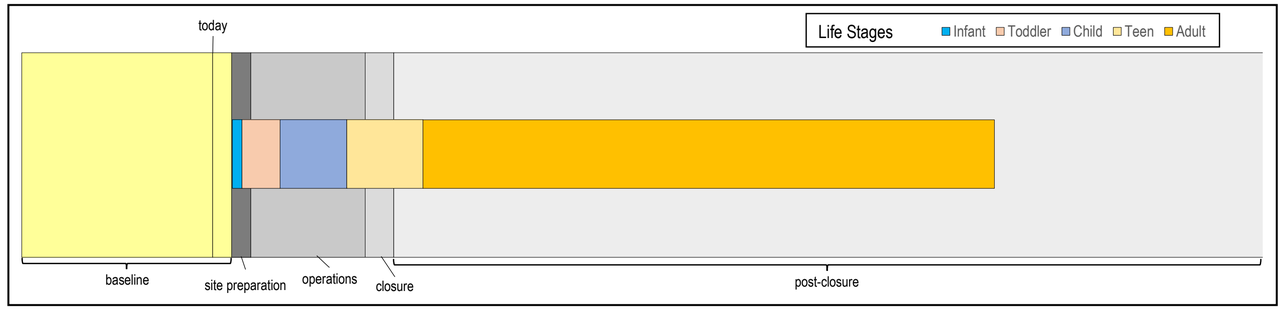


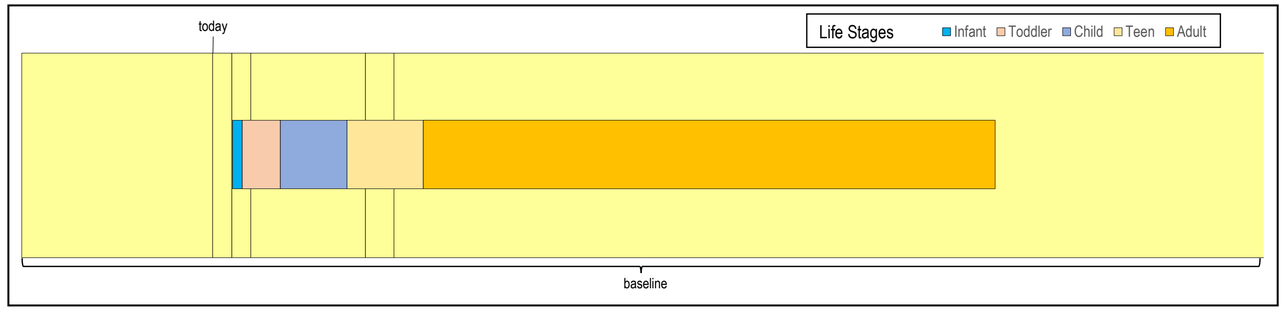

| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
| v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v |

| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** | **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** |
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| OSF | OSF | OSF | OSF | OSF | OSF |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 |
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| | Cancer_2 | Model |
| | Location 1 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media |
| Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base | Base |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| media_Air | media_Soil | media_Soil | Media_Water (wet) | Media_Water (wet) | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — | Plant_1 | Plant_2 | Plant_3 | Plant_4 | Plant_5 | Meat_1 | Meat_2 | Meat_3 | Fish_2 | Meat_14 | — | — | — |
| g | g | g | f | f | e | e | e | e | e | e | e | e | e | e | — | — | — | n | n | n | n | n | by | by | by | n | by | — | — | — | w | w | w | w | w | es | es | es | w | es | — | — | — |
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| Carcinoge n? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose via Water Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose Forage (mg/kg/d) | Lifetime Average Daily Dose Berries (mg/kg/d) | Lifetime Average Daily Dose Macrophytes (mg/kg/d) | Lifetime Average Daily Dose Labrador Tea (mg/kg/d) | Lifetime Average Daily Dose Root Vegetable (mg/kg/d) | Lifetime Average Daily Dose Moose (mg/kg/d) | Lifetime Average Daily Dose Mallard Duck (mg/kg/d) | Lifetime Average Daily Dose Ruffed Grouse (mg/kg/d) | Lifetime Average Daily Dose Generic Fish (mg/kg/d) | Lifetime Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media_ | ref_HH Concentration Media_ | ref_HH Concentration Media_

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|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_2 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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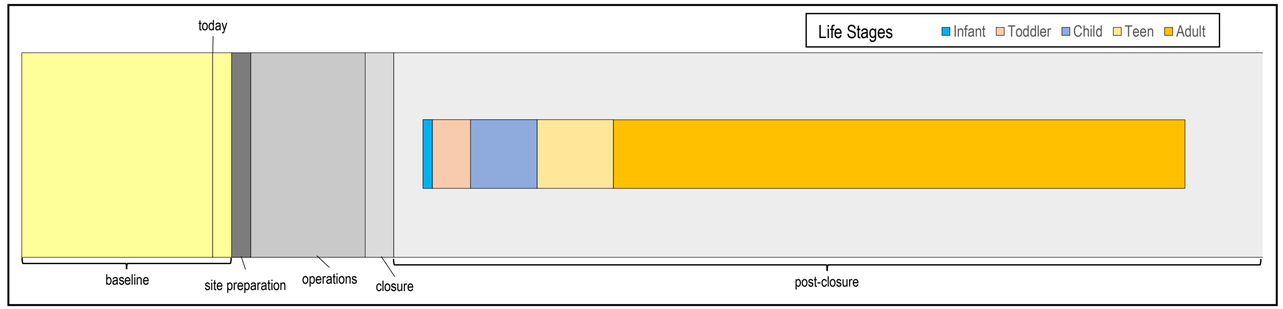
|---|---|
| Cancer_2 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

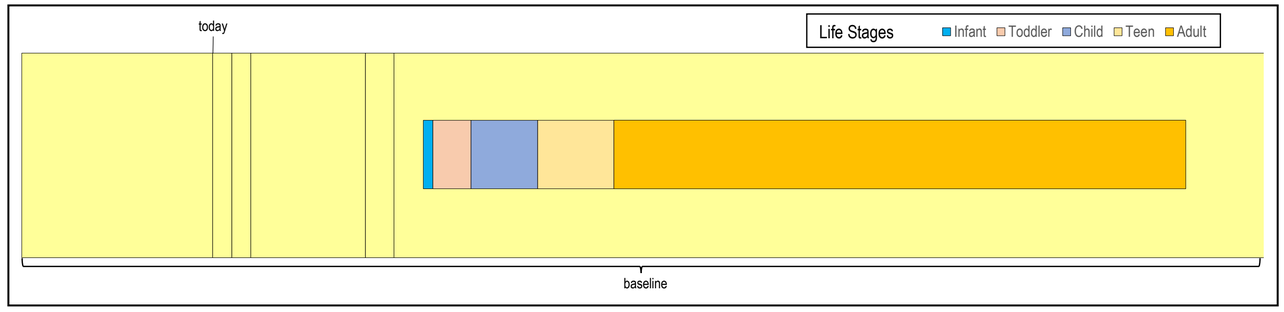
| | | |

| Cancer_3 | Model Simulation | Cancer_3 |
|---|---|---|
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
|---|---|



| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_3 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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|---|---|
| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| | | ref_HH Concentration Media_ | ref_HH Concentration Media_ | ref_HH Concentration Media_

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|---|---|
| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_3 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_3 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_4 | Model Simulation | Cancer_4 |
|---|---|---|
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| -19 | OffSet (years) | 1 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | -19 |
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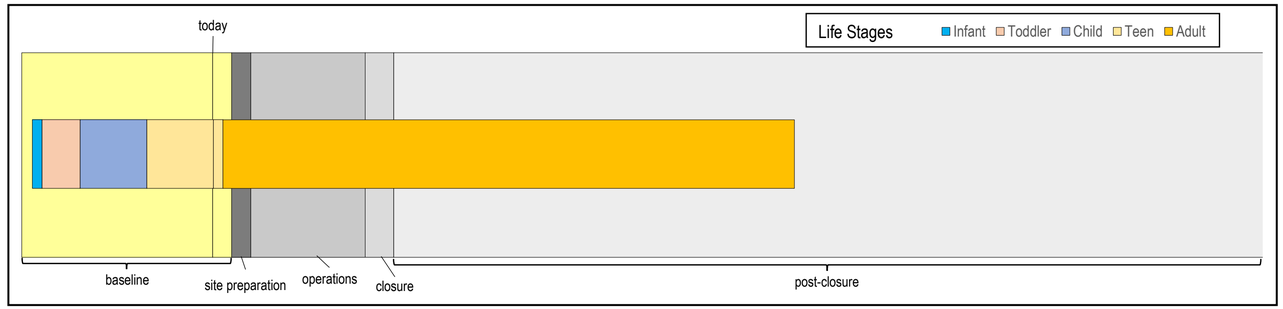


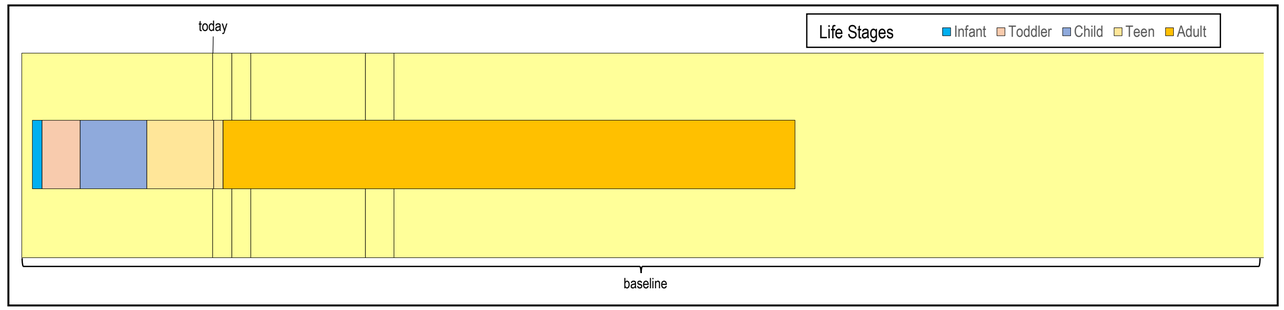

| Cancer_4 | Model |
|---|---|
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_4 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_4 | Model |
| | Location 1 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

| No_Unit Concentration Media | No_Unit Concentration Media | No_Unit Concentration Media |

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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
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| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
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| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_4 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_4 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_5 | Model Simulation | Cancer_5 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
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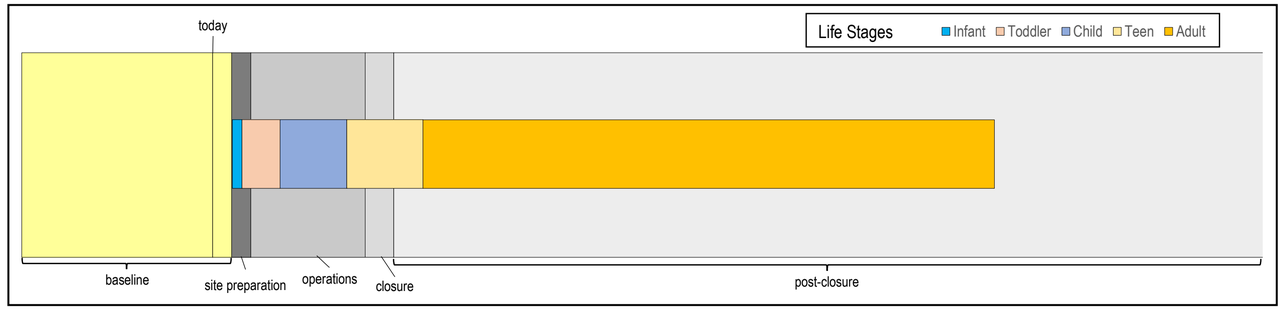


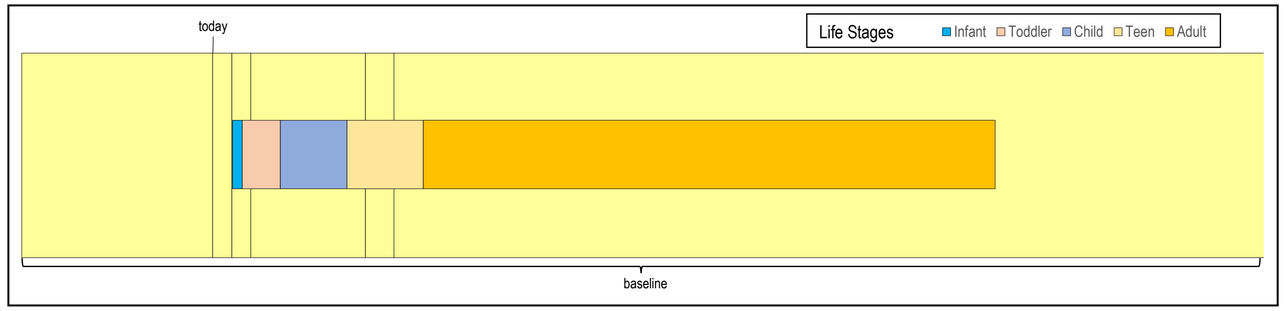

| Cancer_5 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_5 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** | **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_5 | Model |
| | Location 1 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

| No_Unit Concentration Media | No_Unit Concentration Media | No_Unit Concentration Media |

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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_5 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_5 | Model |
| Location 1 | Study Area |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_5 | Model |
| Location 1 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_5 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_5 | Model |
| Location 1 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_5 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_6 | Model Simulation | Cancer_6 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
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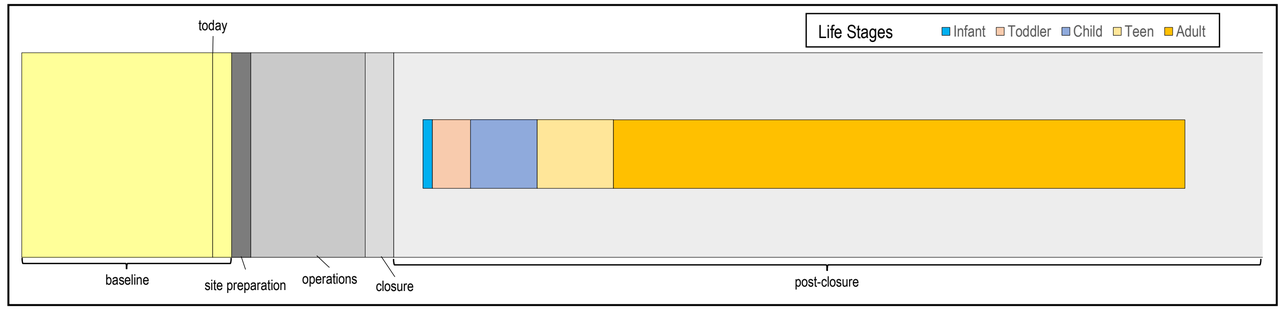


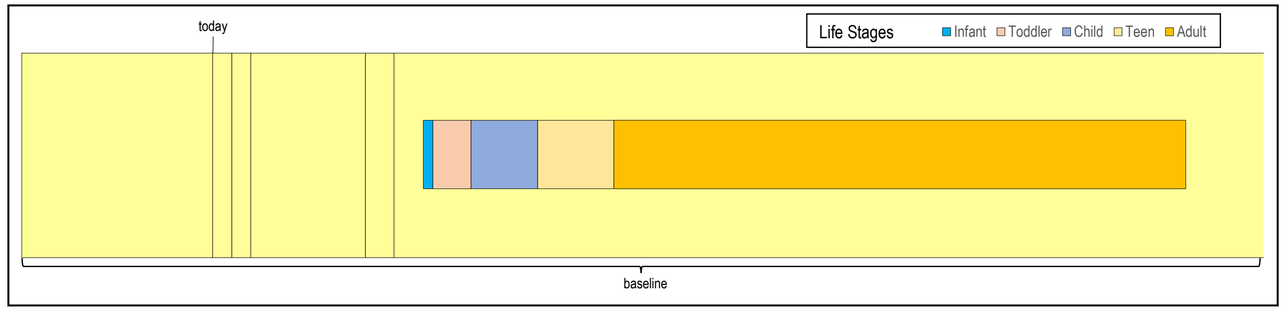

| Cancer_6 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_6 | Model |
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| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** | **1.28297E-06** | 5.63262E-07 | 1.07627E-08 | 0 | 0 | 0 | 0 | 2.1577E-07 | 4.26218E-07 | **2.12587E-06** | 2.55429E-07 | 6.30174E-07 | **4.21234E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_6 | Model |
| | Location 1 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

| No_11 Concentration Media | No_11 Concentration Media | No_11 Concentration Media |

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|---|---|
| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_6 | Model |
| Location 1 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_6 | Model |
| Location 1 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_6 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Study Area |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_6 | Model |
| Location 1 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_7 | Model Simulation |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | -19 |
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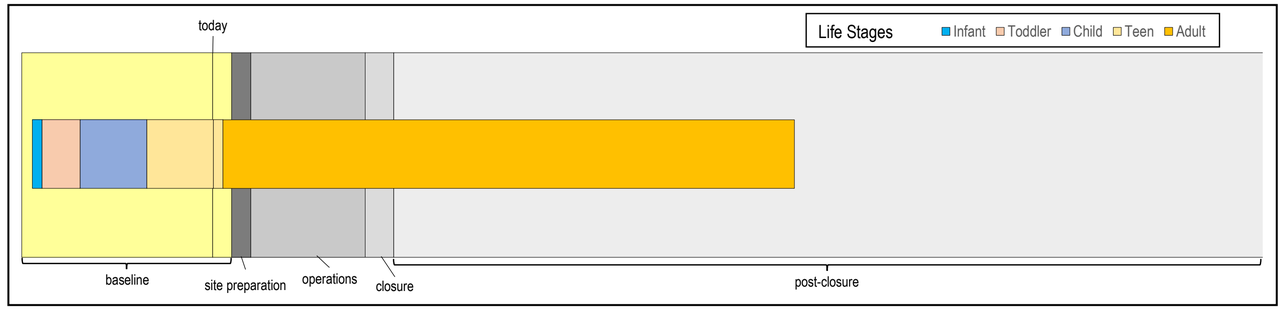


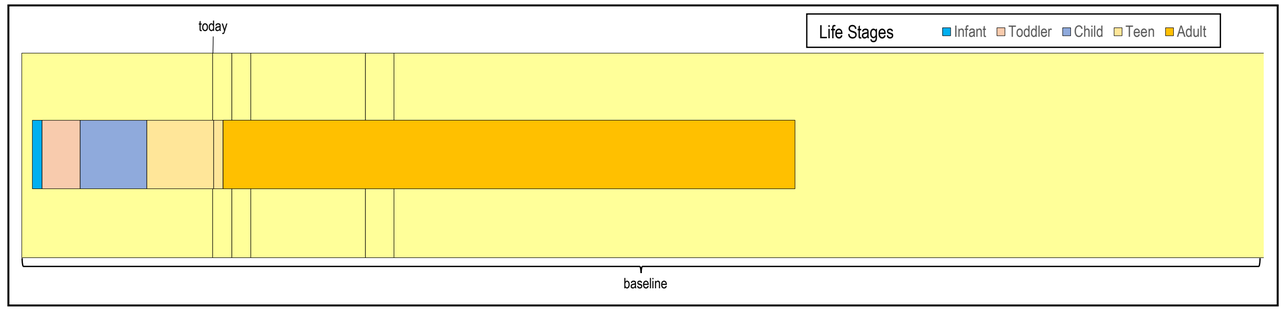

| Cancer_7 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00019557** | 1.74054E-08 | **5.07099E-06** | **0.000158504** | **3.19776E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_7 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 0.00010865 | 9.66969E-09 | 2.81722E-06 | 8.8058E-05 | 1.77653E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_7 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.74054E-08 | **4.36235E-06** | 7.08644E-07 | **0.00015794** | 5.64048E-07 | 0 | 6.36955E-07 | 2.83364E-07 | **6.27559E-06** | 7.5403E-07 | **1.75326E-06** | **1.20497E-05** | **3.94436E-06** | 5.66482E-07 | 3.30708E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_7 | Model |
| | Location 1 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
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| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
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| Cancer_7 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_7 | Model |
| Location 1 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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|---|---|
| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_7 | Model |
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| Location 1 | Study Area |
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| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_7 | Model |
| Location 1 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_7 | Model |
| Location 1 | Study Area |
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| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
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| Cancer_7 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 12 | Years Exposed for this page |
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| Cancer_7 | Model |
| Location 1 | Study Area |
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| Closure | Project Phase |
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| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_7 | Model |
| Location 1 | Study Area |
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| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model Simulation | Cancer_8 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
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| offset | 2 |
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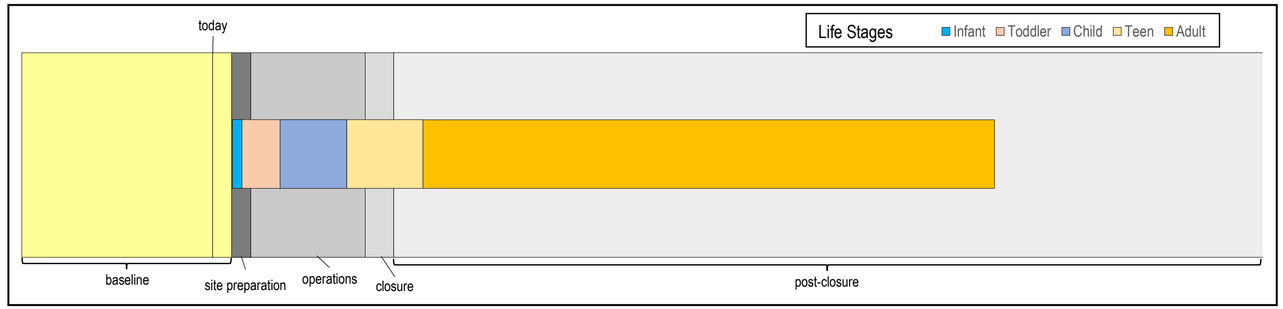


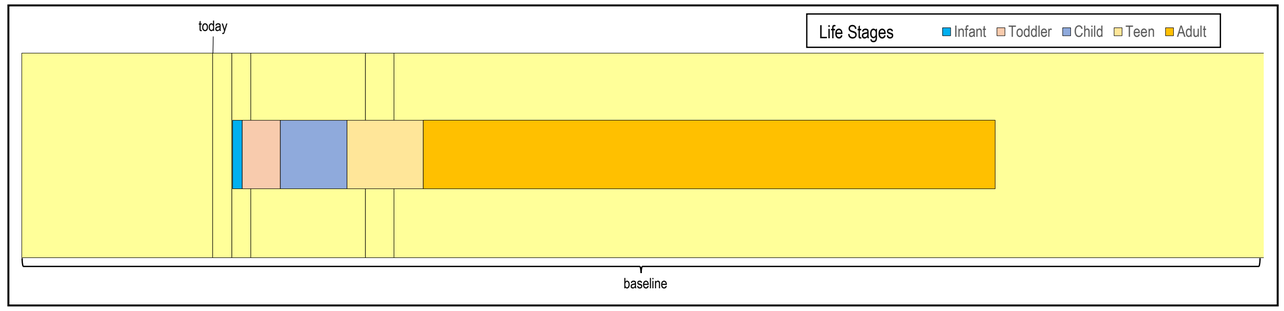

| Cancer_8 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.79518E-05** | 2.84261E-10 | 3.06556E-07 | **4.442E-05** | **2.32249E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_8 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.7751E-05 | 1.57923E-10 | 1.70309E-07 | 2.46778E-05 | 1.29027E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.84261E-10 | 2.71479E-07 | 3.5077E-08 | **4.42619E-05** | 1.58121E-07 | 0 | 7.31297E-07 | 3.29922E-12 | **7.20509E-06** | 8.65713E-07 | **1.40886E-06** | **9.70691E-06** | **3.22722E-06** | 3.24787E-12 | 2.70351E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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| Cancer_8 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_8 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_9 | Model Simulation | Cancer_9 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
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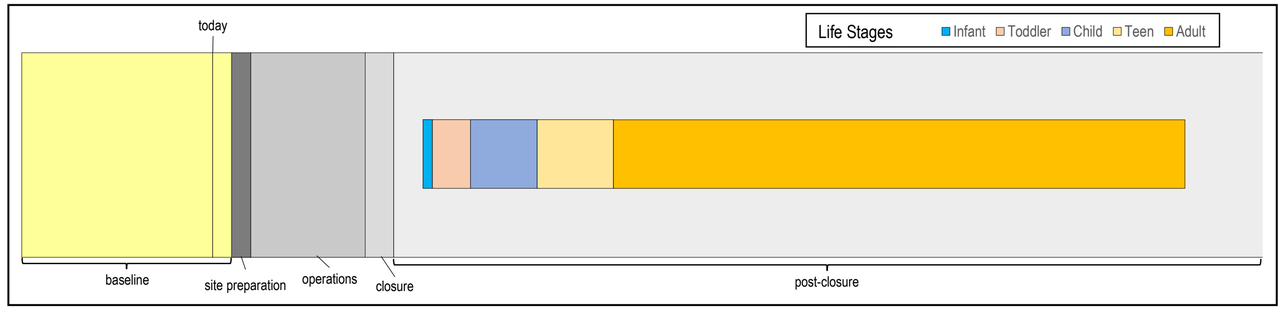


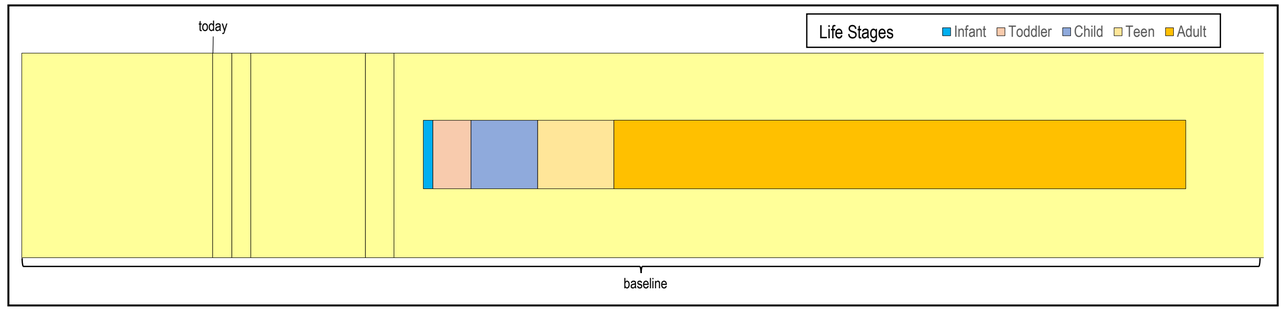

| Cancer_9 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **5.88705E-05** | 2.84261E-10 | 4.36445E-07 | **5.72557E-05** | **1.17809E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_9 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.27058E-05 | 1.57923E-10 | 2.42469E-07 | 3.18087E-05 | 6.54495E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.84261E-10 | 3.9388E-07 | 4.25653E-08 | **5.70501E-05** | 2.05562E-07 | 0 | 2.75604E-08 | 4.61378E-12 | 2.71538E-07 | 3.26261E-08 | 9.48928E-08 | 5.17471E-07 | 1.77968E-07 | 6.09728E-12 | 1.45055E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 7.11129E-10 | 2.30689E-12 | 7.00639E-09 | 8.41838E-10 | 1.8285E-09 | 1.26716E-08 | 4.18652E-09 | 3.04864E-12 | 3.52464E-11 | 0 | 0 | 0 | 0 | 7.11129E-10 | 2.30689E-12 | 7.00639E-09 | 8.41838E-10 | 1.8285E-09 | 1.26716E-08 |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_9 | Model |
| | Location 1 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
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| Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media |
| Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose via Water Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose Forage (mg/kg/d) | Lifetime Average Daily Dose Berries (mg/kg/d) | Lifetime Average Daily Dose Macrophytes (mg/kg/d) | Lifetime Average Daily Dose Labrador Tea (mg/kg/d) | Lifetime Average Daily Dose Root Vegetable (mg/kg/d) | Lifetime Average Daily Dose Moose (mg/kg/d) | Lifetime Average Daily Dose Mallard Duck (mg/kg/d) | Lifetime Average Daily Dose Ruffed Grouse (mg/kg/d) | Lifetime Average Daily Dose Generic Fish (mg/kg/d) | Lifetime Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_9 | Model |
| Location 1 | Study Area |
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| Cancer_9 | Model |
| Location 1 | Study Area |
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| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_9 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_9 | Model |
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| Cancer_9 | Model |
| Location 1 | Study Area |
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| Cancer_9 | Model |
| Location 1 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
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| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_9 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model Simulation | Cancer_10 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| -19 | OffSet (years) | 1 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
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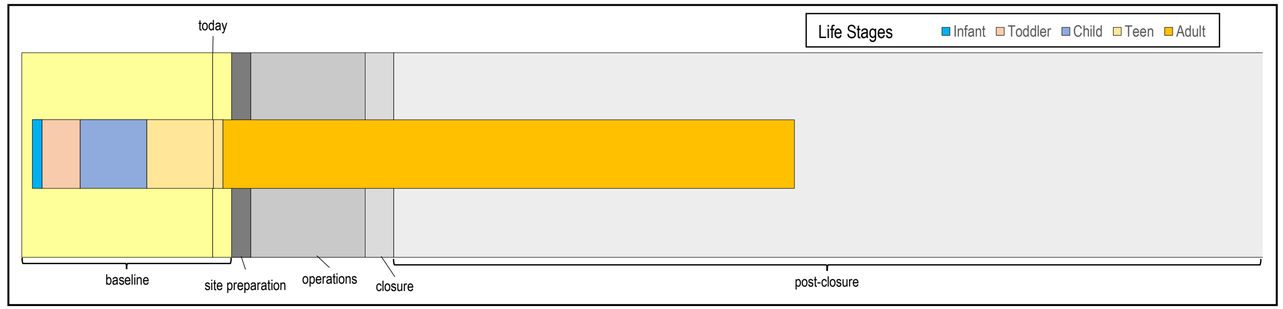
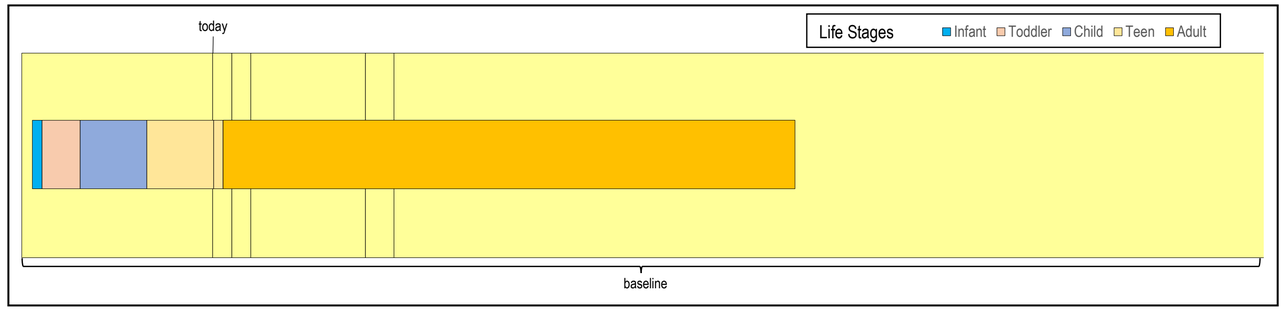
| offset | -19 |



| Cancer_10 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **7.28053E-05** | 4.35136E-09 | **1.26775E-06** | **3.95556E-05** | **3.19776E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_10 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 4.04474E-05 | 2.41742E-09 | 7.04305E-07 | 2.19753E-05 | 1.77653E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 4.35136E-09 | **1.09059E-06** | 1.77161E-07 | **3.94851E-05** | 7.0506E-08 | 0 | 6.36955E-07 | 2.83364E-07 | **6.27559E-06** | 7.5403E-07 | **1.75326E-06** | **1.20497E-05** | **3.94436E-06** | 5.66482E-07 | 3.30708E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 7.21771E-08 | 1.41682E-07 | 7.11124E-07 | 8.54436E-08 | 1.58778E-07 | **1.06166E-06** | 3.23586E-07 | 2.83241E-07 | 2.71463E-09 | 0 | 0 | 0 | 0 | 7.21771E-08 | 1.41682E-07 | 7.11124E-07 | 8.54436E-08 | 1.58778E-07 | **1.06166E-06** |
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| OSF | OSF | OSF | OSF | OSF | OSF |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_10 | Model |
| | Location 1 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_10 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| | |
|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_10 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_10 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|---|
| Cancer_11 | Model Simulation | Cancer_11 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 2 |
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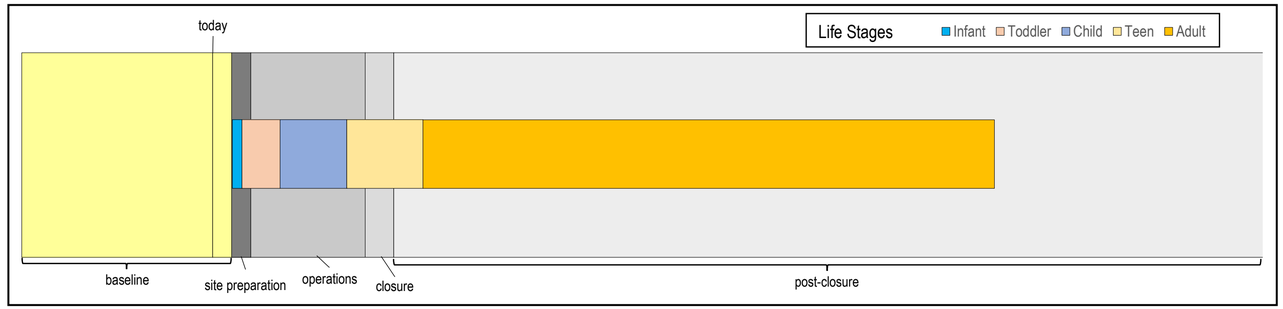


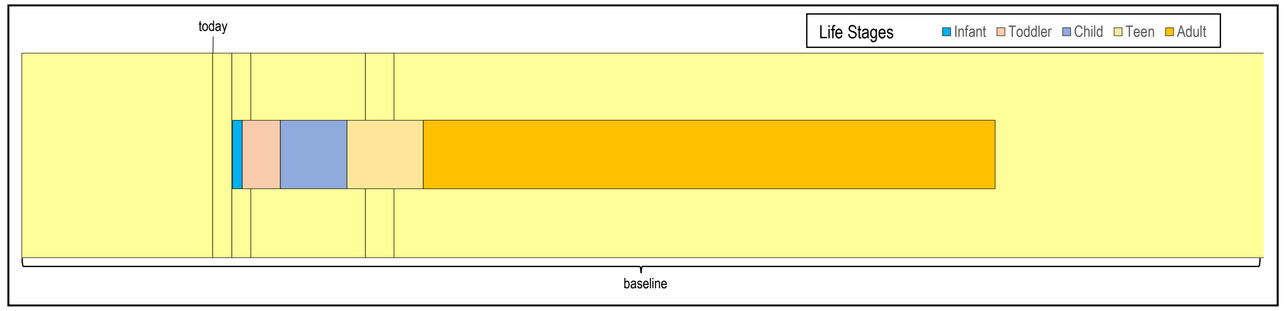

| Cancer_11 | Model |
|---|---|
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **3.43869E-05** | 7.10653E-11 | 7.66391E-08 | **1.10852E-05** | **2.32249E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_11 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.91038E-05 | 3.94807E-11 | 4.25773E-08 | 6.15847E-06 | 1.29027E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Cancer_11 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
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| Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose via Water Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose Forage (mg/kg/d) | Lifetime Average Daily Dose Berries (mg/kg/d) | Lifetime Average Daily Dose Macrophytes (mg/kg/d) | Lifetime Average Daily Dose Labrador Tea (mg/kg/d) | Lifetime Average Daily Dose Root Vegetable (mg/kg/d) | Lifetime Average Daily Dose Moose (mg/kg/d) | Lifetime Average Daily Dose Mallard Duck (mg/kg/d) | Lifetime Average Daily Dose Ruffed Grouse (mg/kg/d) | Lifetime Average Daily Dose Generic Fish (mg/kg/d) | Lifetime Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_11 | Model |
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| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 3 | Years Exposed for this page |
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| Cancer_11 | Model |
| Location 1 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_11 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_12 | Model Simulation | Cancer_12 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
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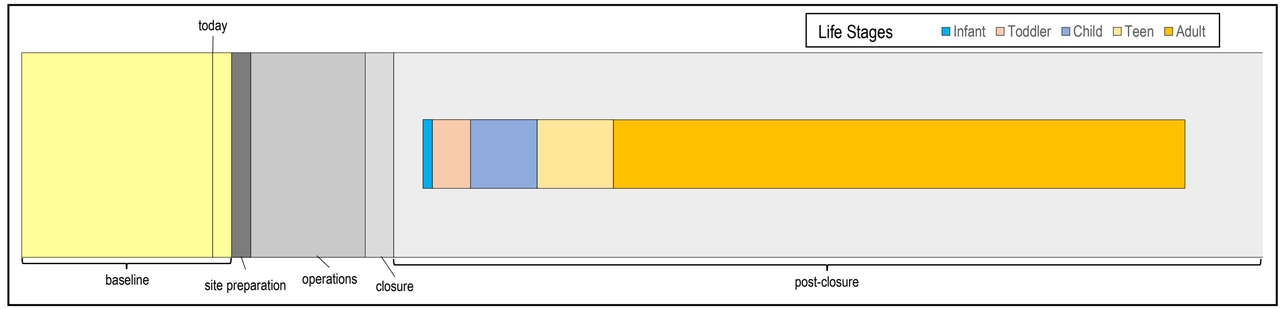


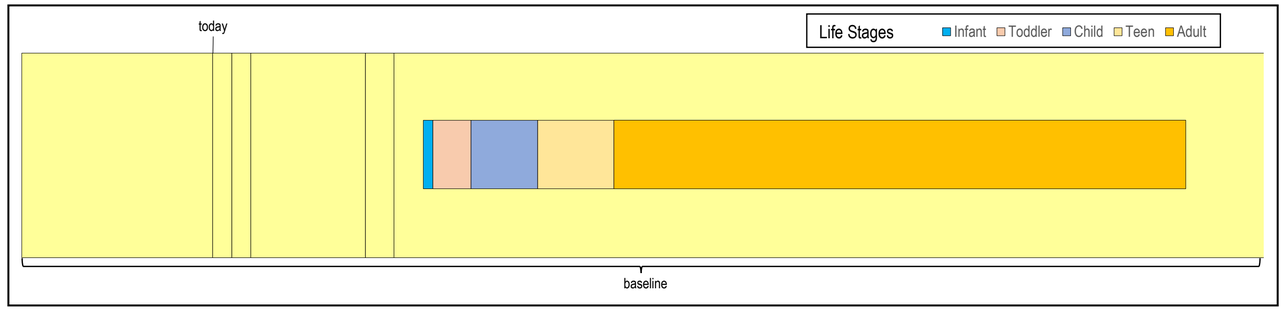

| Cancer_12 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **1.55755E-05** | 7.10653E-11 | 1.09111E-07 | **1.42882E-05** | **1.17809E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_12 | Model |
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| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 8.65305E-06 | 3.94807E-11 | 6.06174E-08 | 7.9379E-06 | 6.54495E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 7.10653E-11 | 9.84699E-08 | 1.06413E-08 | **1.42625E-05** | 2.56953E-08 | 0 | 2.75604E-08 | 4.61378E-12 | 2.71538E-07 | 3.26261E-08 | 9.48928E-08 | 5.17471E-07 | 1.77968E-07 | 6.09728E-12 | 1.45055E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 7.11129E-10 | 2.30689E-12 | 7.00639E-09 | 8.41838E-10 | 1.8285E-09 | 1.26716E-08 | 4.18652E-09 | 3.04864E-12 | 3.52464E-11 | 0 | 0 | 0 | 0 | 7.11129E-10 | 2.30689E-12 | 7.00639E-09 | 8.41838E-10 | 1.8285E-09 | 1.26716E-08 |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_12 | Model |
| | Location 1 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
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| No Concentration Media | No Concentration Media | No Concentration Media |

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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_12 | Model |
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| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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|---|---|
| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
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| Child | Receptor |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Location 1 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_12 | Model |
|---|---|
| Location 1 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_12 | Model |
| Location 1 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_13 | Model Simulation |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
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| offset | -19 |
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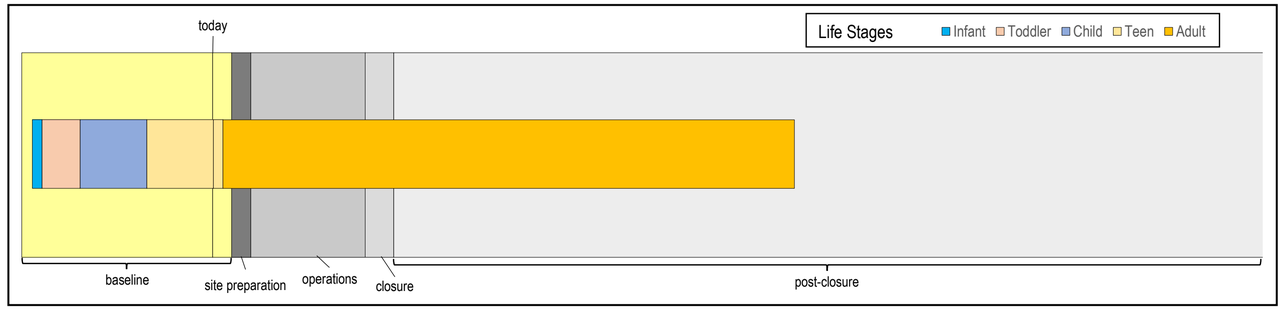


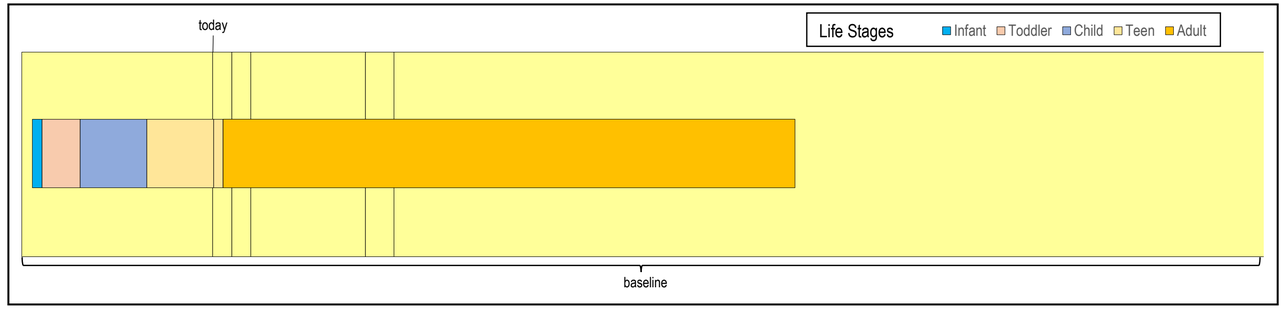

| Cancer_13 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00022417** | 1.15226E-07 | **6.20107E-06** | **0.000161814** | **5.60393E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_13 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 0.000124539 | 6.40145E-08 | 3.44504E-06 | 8.98969E-05 | 3.1133E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
| v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v |

| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.15226E-07 | **5.26152E-06** | 9.3955E-07 | **0.000161239** | 5.75685E-07 | 0 | 8.42035E-07 | 8.33147E-07 | **8.29614E-06** | 9.96805E-07 | **2.47474E-06** | **1.66593E-05** | **5.3019E-06** | **1.10754E-06** | 4.44971E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.16222E-07 | 4.26219E-07 | **2.13032E-06** | 2.55964E-07 | 6.3148E-07 | **4.22139E-06** | **1.28596E-06** | 5.63264E-07 | 1.07879E-08 | 0 | 0 | 0 | 0 | 2.16222E-07 | 4.26219E-07 | **2.13032E-06** | 2.55964E-07 | 6.3148E-07 | **4.22139E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_13 | Model |
| | Location 1 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| 80 | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_13 | Model |
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| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_13 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
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| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_13 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_13 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model Simulation | Cancer_14 |
|---|---|---|
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
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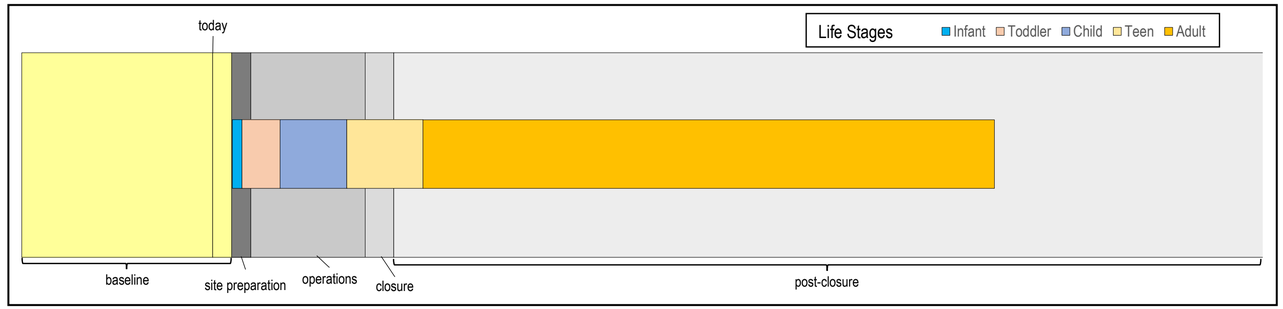


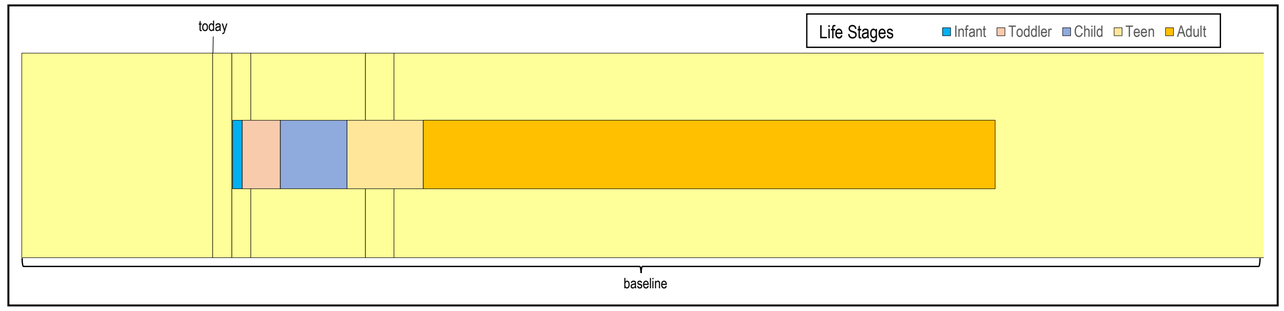

| Cancer_14 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000104619** | 1.6041E-08 | **2.01435E-06** | **4.442E-05** | **5.8169E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 5.81219E-05 | 8.91168E-09 | 1.11908E-06 | 2.46778E-05 | 3.23161E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.6041E-08 | **1.63206E-06** | 3.82285E-07 | **4.42619E-05** | 1.58121E-07 | 0 | **1.03988E-06** | 8.31774E-07 | **1.02454E-05** | **1.23102E-06** | **2.448E-06** | **1.64809E-05** | **5.24072E-06** | **1.10894E-06** | 4.39846E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.16452E-07 | 4.26219E-07 | **2.13259E-06** | 2.56237E-07 | 6.31949E-07 | **4.22464E-06** | **1.28703E-06** | 5.63264E-07 | 1.07969E-08 | 0 | 0 | 0 | 0 | 2.16452E-07 | 4.26219E-07 | **2.13259E-06** | 2.56237E-07 | 6.31949E-07 | **4.22464E-06** |
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| OSF | OSF | OSF | OSF | OSF | OSF |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| **1.28703E-06** | 5.63264E-07 | 1.07969E-08 | 0 | 0 | 0 |
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| | Cancer_14 | Model |
| | Location 1 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | | |

| Cancer_14 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_14 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_14 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_15 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | OffSet (years) |

| | |
|---|---|
| Offset Model | |
| Option | Years |
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| 3 | +22 |

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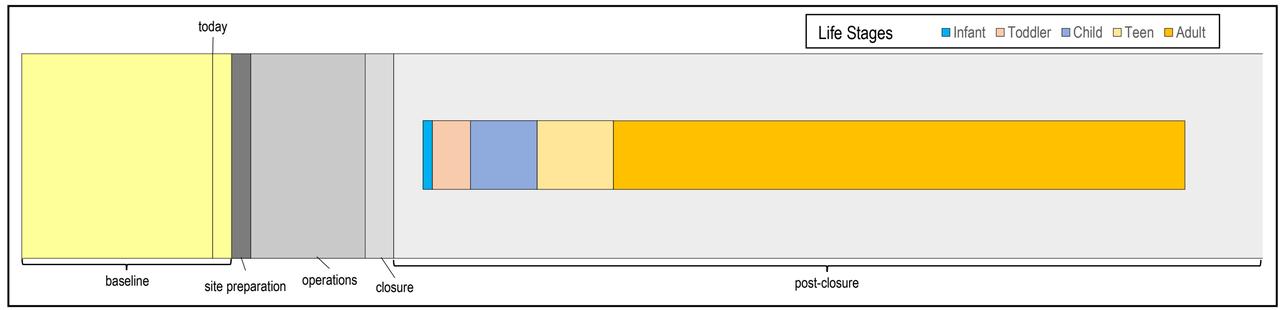


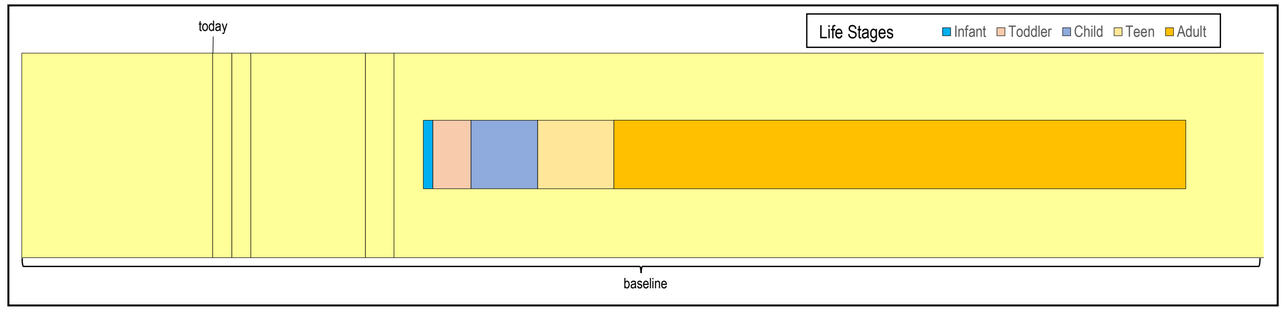

| Cancer_15 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000101418** | 2.28259E-08 | **4.17803E-06** | **5.72557E-05** | **3.99619E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_15 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 5.63436E-05 | 1.26811E-08 | 2.32113E-06 | 3.18087E-05 | 2.22011E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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|---|---|
| Cancer_15 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.67101E-06** | 5.07023E-07 | **5.70501E-05** | 2.05562E-07 | 0 | 4.591E-07 | 8.5244E-07 | **4.52327E-06** | 5.43484E-07 | **1.31632E-06** | **8.89934E-06** | **2.71846E-06** | **1.12653E-06** | 2.28391E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
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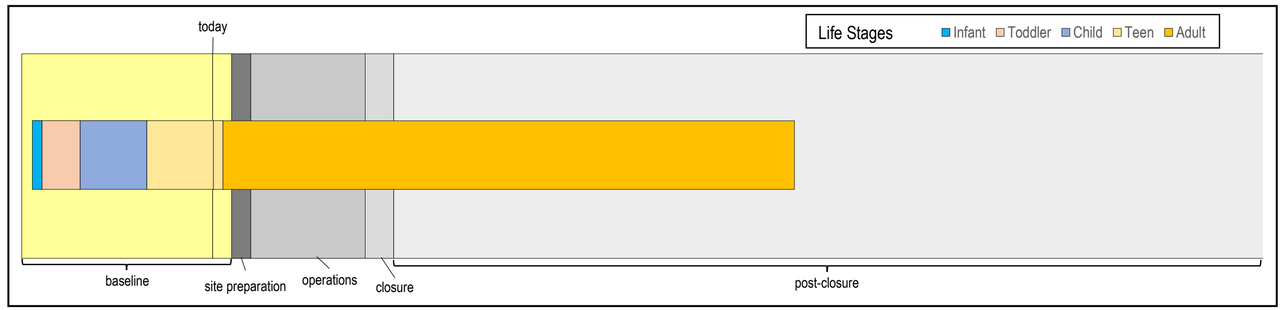


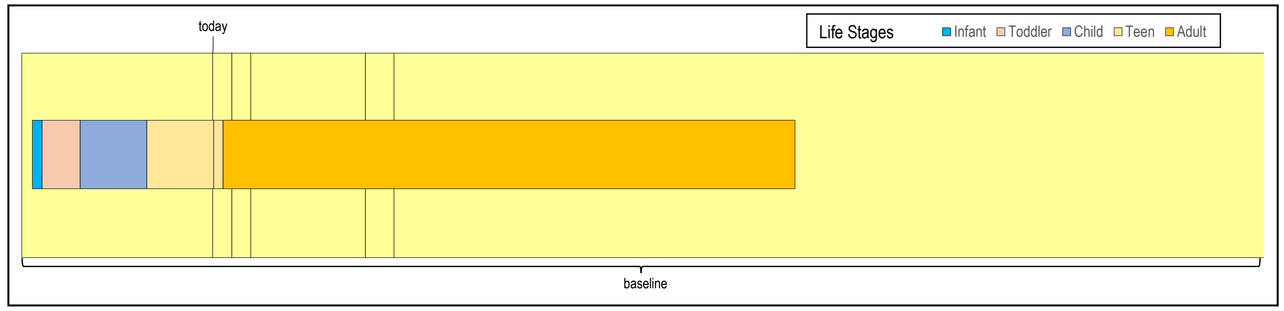

| Cancer_16 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **9.80001E-05** | 2.88065E-08 | **1.55027E-06** | **4.03817E-05** | **5.60393E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_16 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 5.44445E-05 | 1.60036E-08 | 8.61259E-07 | 2.24343E-05 | 3.1133E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.88065E-08 | **1.31538E-06** | 2.34888E-07 | **4.03097E-05** | 7.19607E-08 | 0 | 8.42035E-07 | 8.33147E-07 | **8.29614E-06** | 9.96805E-07 | **2.47474E-06** | **1.66593E-05** | **5.3019E-06** | **1.10754E-06** | 4.44971E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.16222E-07 | 4.26219E-07 | **2.13032E-06** | 2.55964E-07 | 6.3148E-07 | **4.22139E-06** | **1.28596E-06** | 5.63264E-07 | 1.07879E-08 | 0 | 0 | 0 | 0 | 2.16222E-07 | 4.26219E-07 | **2.13032E-06** | 2.55964E-07 | 6.3148E-07 | **4.22139E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_16 | Model |
| | Location 1 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Location 1 | Study Area |
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| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
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| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_16 | Model |
| Location 1 | Study Area |
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| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
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| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Tern | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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|---|---|
| Cancer_16 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_17 | Model Simulation | Cancer_17 |
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| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 2 |
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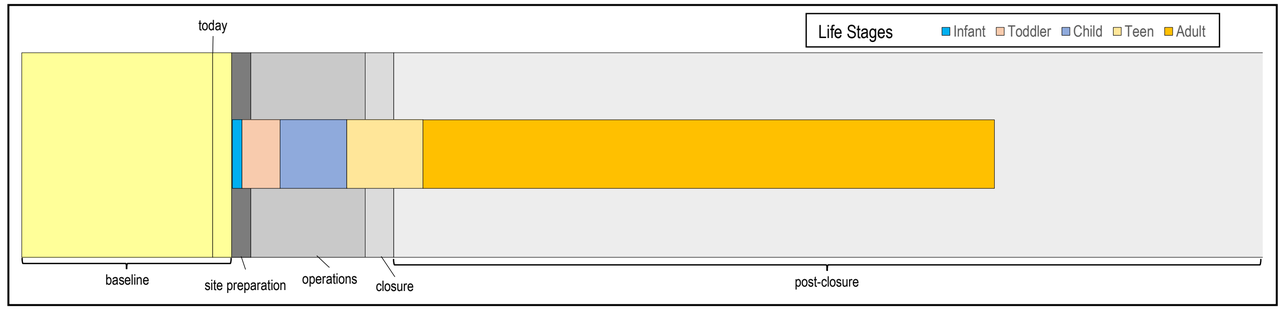


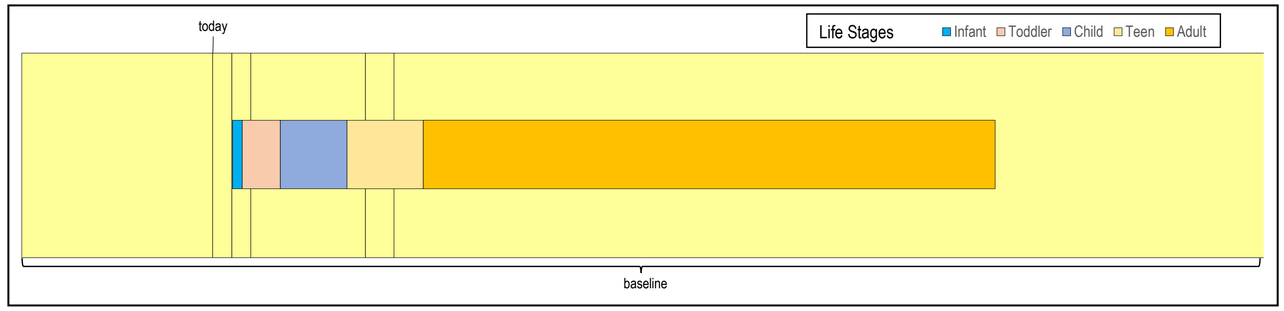

| Cancer_17 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.97618E-05** | 4.01025E-09 | 5.03587E-07 | **1.10852E-05** | **5.8169E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_17 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.87566E-05 | 2.22792E-09 | 2.79771E-07 | 6.15847E-06 | 3.23161E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 4.01025E-09 | 4.08016E-07 | 9.55712E-08 | **1.10655E-05** | 1.97651E-08 | 0 | **1.03988E-06** | 8.31774E-07 | **1.02454E-05** | **1.23102E-06** | **2.448E-06** | **1.64809E-05** | **5.24072E-06** | **1.10894E-06** | 4.39846E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 2.16452E-07 | 4.26219E-07 | **2.13259E-06** | 2.56237E-07 | 6.31949E-07 | **4.22464E-06** | **1.28703E-06** | 5.63264E-07 | 1.07969E-08 | 0 | 0 | 0 | 0 | 2.16452E-07 | 4.26219E-07 | **2.13259E-06** | 2.56237E-07 | 6.31949E-07 | **4.22464E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_17 | Model |
| | Location 1 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
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|---|---|
| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| | ref_HH Concentration Media_ | ref_HH Concentration Media_ | ref_HH Concentration Media_

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|---|---|
| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_17 | Model |
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| Location 1 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| 25% | Fraction of Country foods from Tertiary Area |
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|---|---|
| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
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| Cancer_17 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
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| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_17 | Model |
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| Location 1 | Study Area |
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| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_17 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_17 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| Cancer_17 | Model |
| Location 1 | Study Area |
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| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_17 | Model |
| Location 1 | Study Area |
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| — | Project Phase |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Project | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_18 | Model Simulation | Cancer_18 |
| Location 3 | Study Area | Location 1 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 25% | Fraction of Country foods from Secondary Area | 0.25 |
| Location 3 | Tertiary Study Area for Country Foods | Location 3 |
| 25% | Fraction of Country foods from Tertiary Area | 0.25 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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| Option | Years |
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| offset | 22 |
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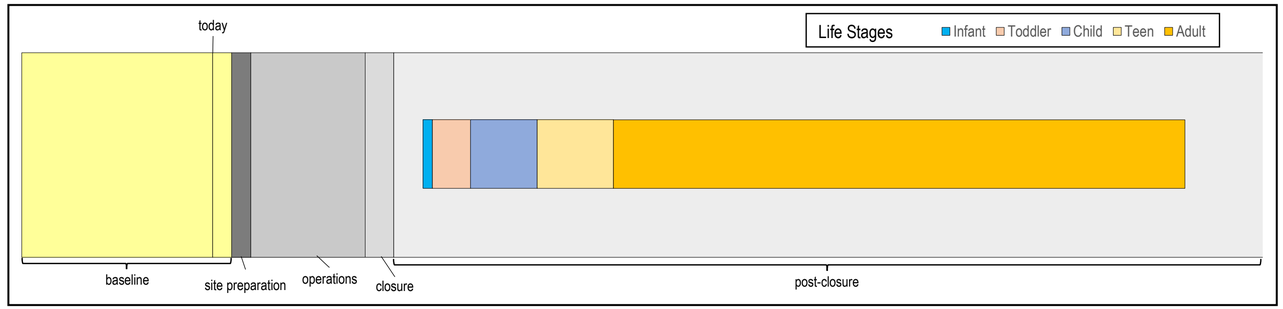


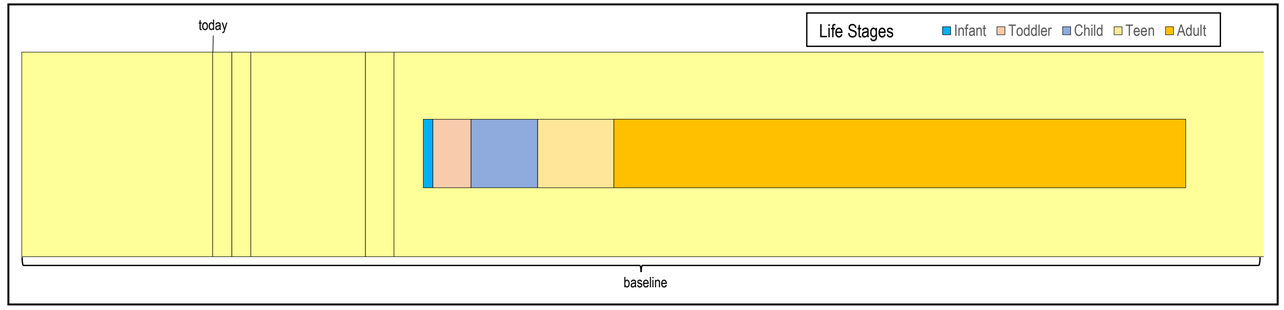

| Cancer_18 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **5.53004E-05** | 5.70648E-09 | **1.04451E-06** | **1.42882E-05** | **3.99619E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_18 | Model |
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| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.07224E-05 | 3.17027E-09 | 5.80282E-07 | 7.9379E-06 | 2.22011E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
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| 25% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 9.17751E-07 | 1.26756E-07 | **1.42625E-05** | 2.56953E-08 | 0 | 4.591E-07 | 8.5244E-07 | **4.52327E-06** | 5.43484E-07 | **1.31632E-06** | **8.89934E-06** | **2.71846E-06** | **1.12653E-06** | 2.28391E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| | Cancer_18 | Model |
| | Location 1 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Secondary Area |
| | Location 3 | Tertiary Study Area for Country Foods |
| | 25% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media_ | ref_HH Concentration Media_ | ref_HH Concentration Media_

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_18 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_18 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Tier | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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|---|---|
| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_18 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_18 | Model |
|---|---|
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_18 | Model |
| Location 1 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 25% | Fraction of Country foods from Secondary Area |
| Location 3 | Tertiary Study Area for Country Foods |
| 25% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_19 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

| | |
|---|---|
| Offset Model | |
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

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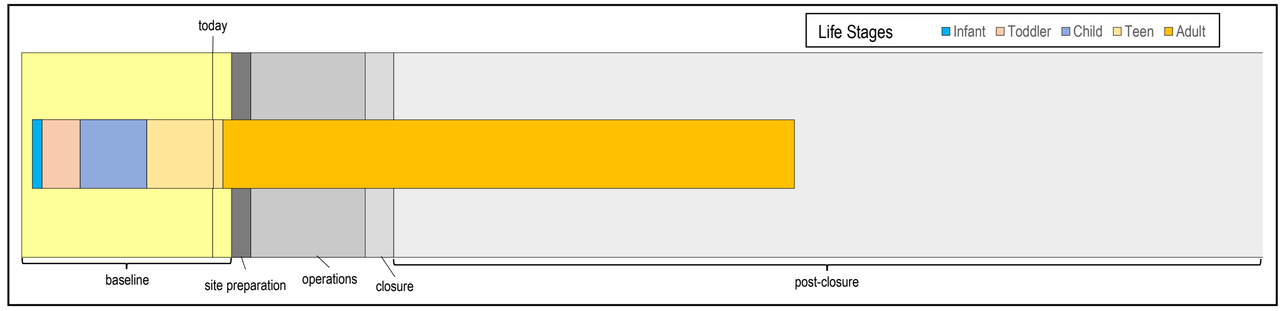
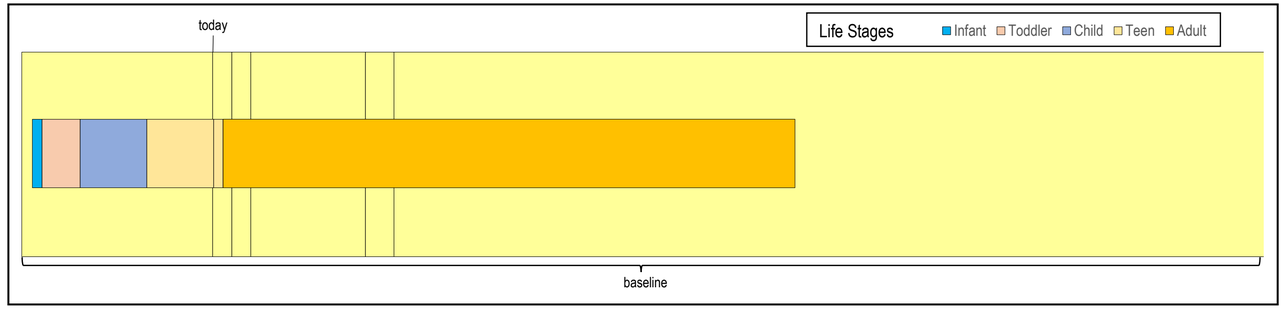
|---|---|
| offset | -19 |



| Cancer_19 | Model |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_19 | Model |
|---|---|
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_19 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 3.88385E-07 | 7.67192E-07 | **3.82656E-06** | 4.59772E-07 | **1.13431E-06** | **7.58221E-06** | **2.30934E-06** | **1.01387E-06** | 1.93729E-08 | 0 | 0 | 0 | 0 | 4.31539E-08 | 8.52435E-08 | 4.25173E-07 | 5.10858E-08 | 1.26035E-07 | 8.42467E-07 |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_19 | Model |
| | Location 2 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_19 | Model |
| Location 2 | Study Area |
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| Location 2 | Study Area |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Study Area |
| Base | Scenario |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_20 | Model Simulation |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

| Offset Model | |
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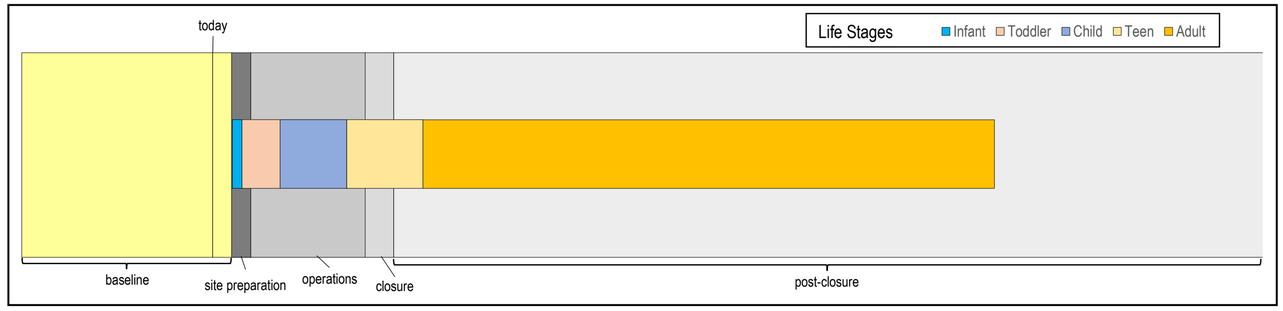


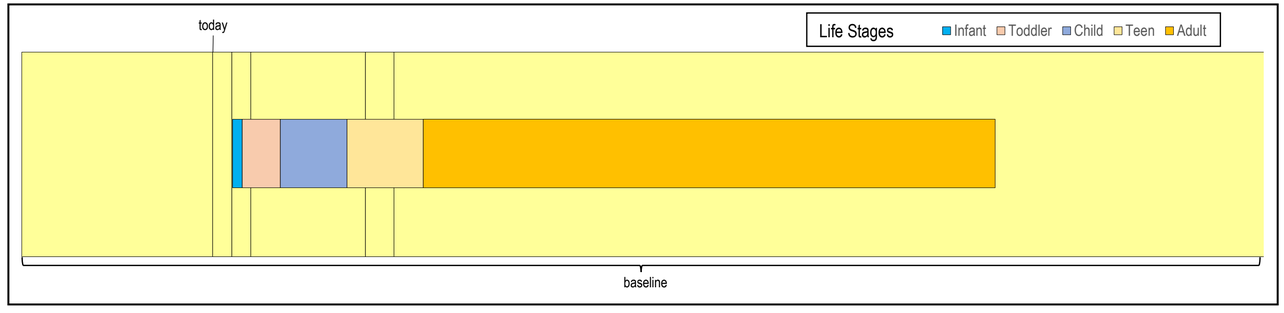

| Cancer_20 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_20 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_20 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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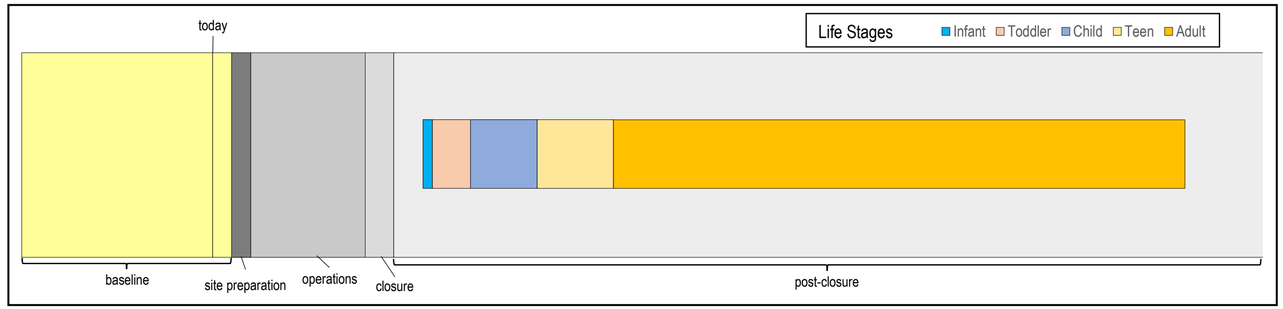


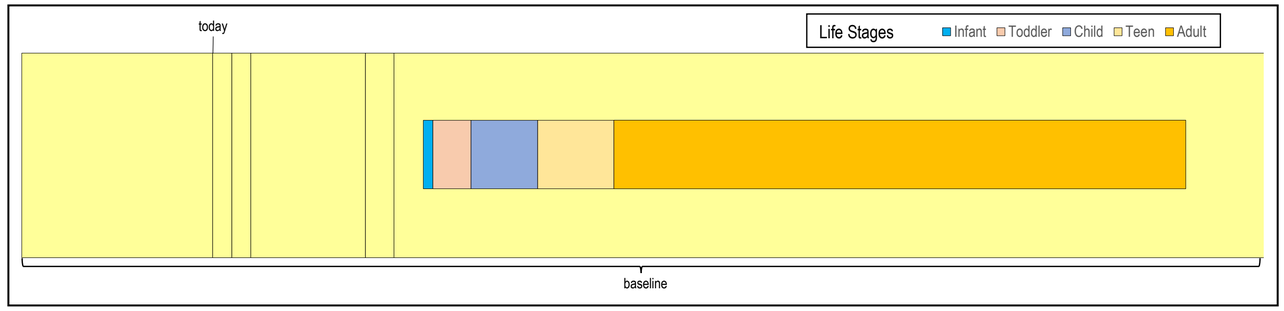

| Cancer_21 | Model |
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| Location 2 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| 8 | Years Exposed for this page |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_21 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_22 | Model Simulation | Cancer_22 |
| Location 3 | Study Area | Location 2 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| -19 | OffSet (years) | 1 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | -19 |
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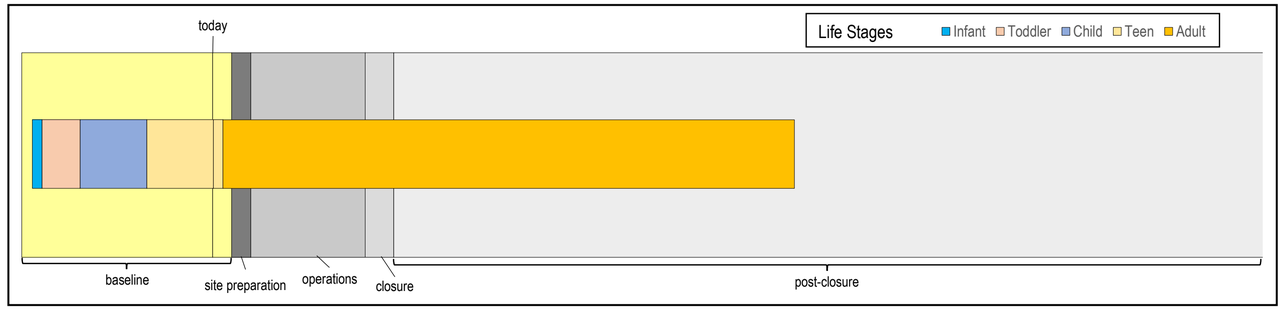


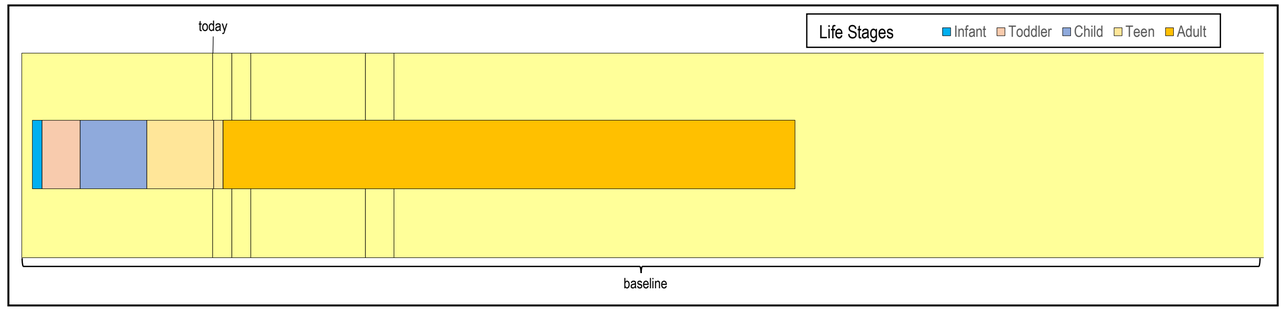

| Cancer_22 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_22 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_22 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 3.88385E-07 | 7.67192E-07 | **3.82656E-06** | 4.59772E-07 | **1.13431E-06** | **7.58221E-06** | **2.30934E-06** | **1.01387E-06** | 1.93729E-08 | 0 | 0 | 0 | 0 | 4.31539E-08 | 8.52435E-08 | 4.25173E-07 | 5.10858E-08 | 1.26035E-07 | 8.42467E-07 |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| Cancer_22 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| No — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
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| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
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| Cancer_22 | Model |
| Location 2 | Study Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
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| Location 2 | Study Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
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| Baseline | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_22 | Model |
| Location 2 | Study Area |
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| — | Project Phase |
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| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_23 | Model Simulation | Cancer_23 |
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| Location 3 | Study Area | Location 2 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
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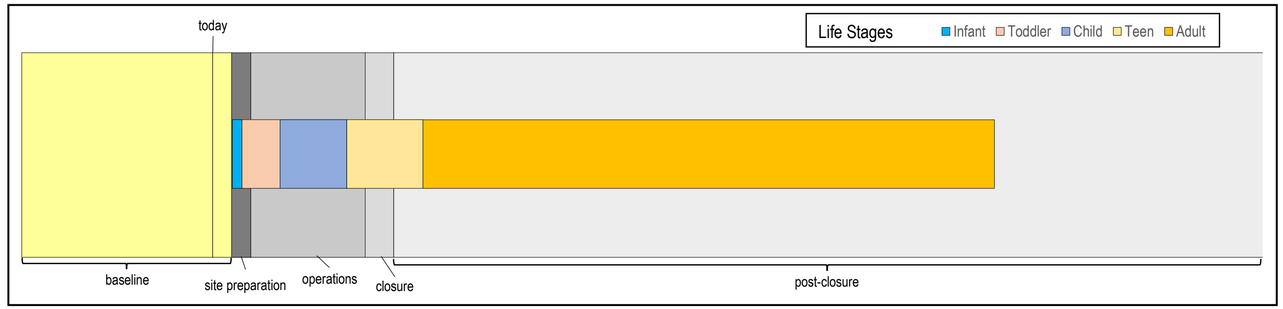


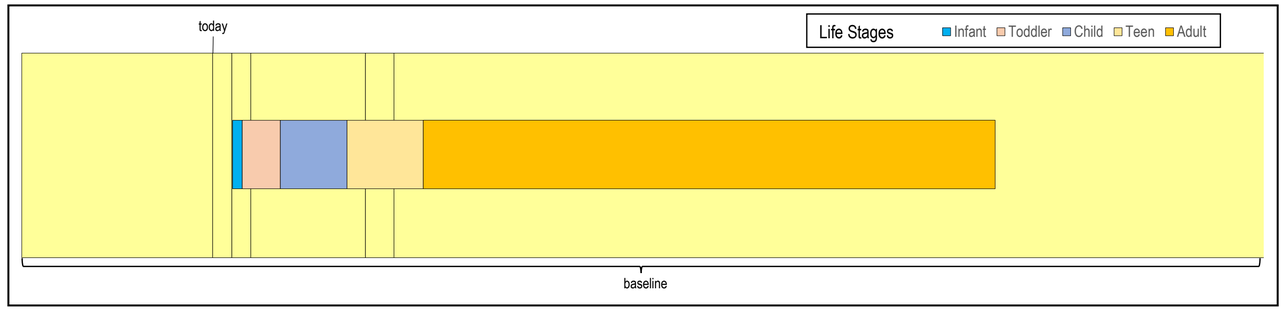

| Cancer_23 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_23 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_23 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Location 3 | Study Area | Location 2 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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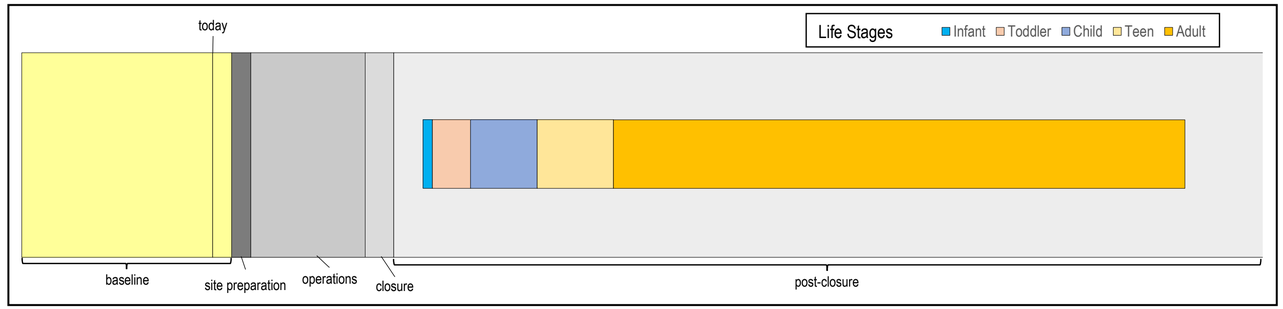


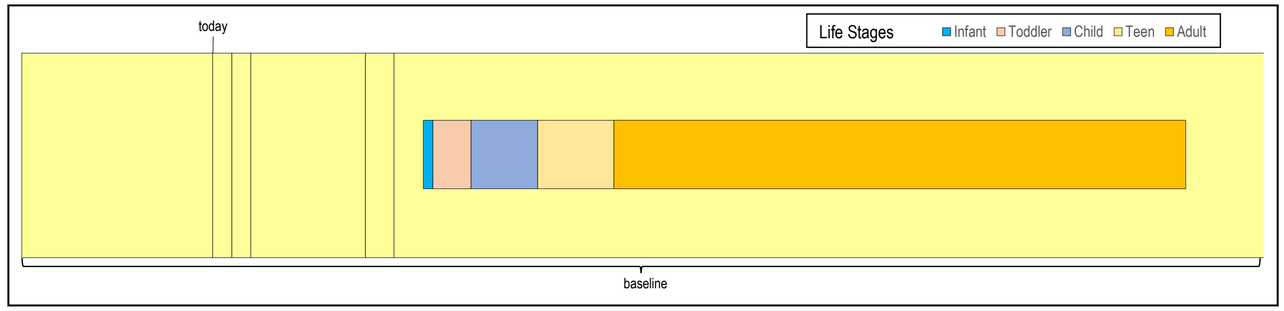

| Cancer_24 | Model |
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| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Cancer_24 | Model |
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| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
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| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| no — | Years Exposed for this page |
| — | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_24 | Model |
| Location 2 | Study Area |
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| Location 3 | Secondary Study Area for Country Foods |
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| Cancer_24 | Model |
| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_24 | Model |
| Location 2 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

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| Offset Model | |
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

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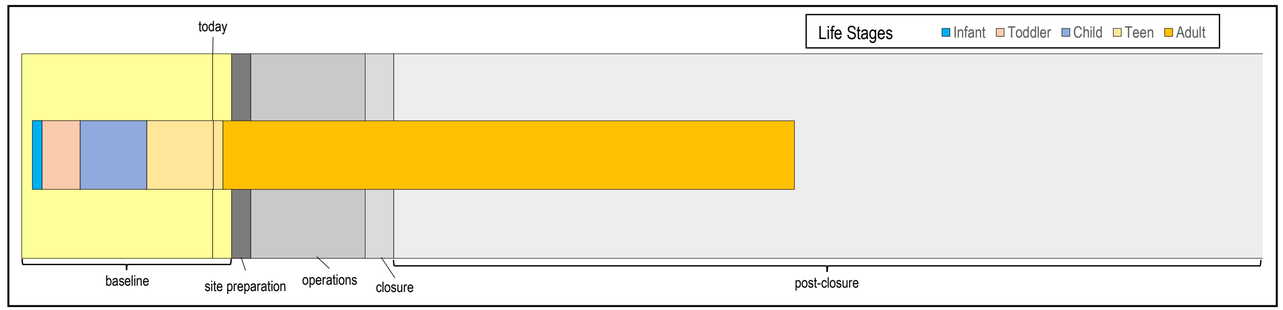
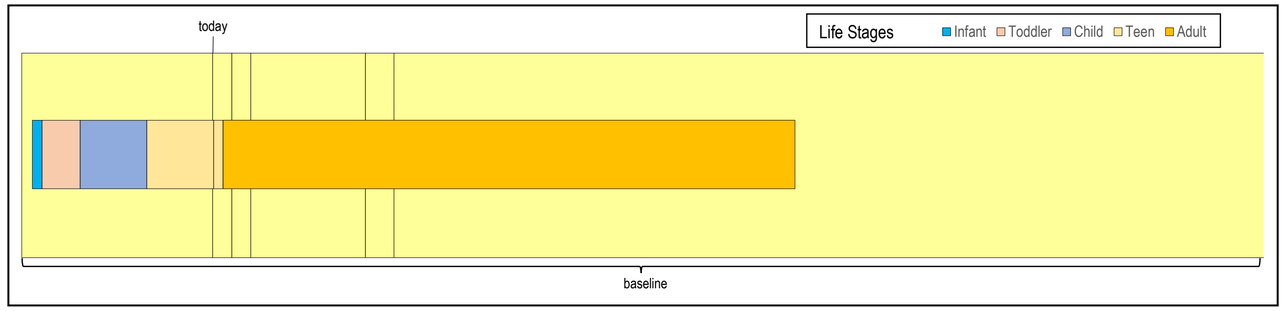
| offset | -19 |



| Cancer_25 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **4.21953E-05** | 1.69598E-08 | **2.35657E-06** | **2.63985E-05** | **1.34232E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_25 | Model |
|---|---|
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 2.34418E-05 | 9.42212E-09 | 1.30921E-06 | 1.46658E-05 | 7.45734E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.69598E-08 | **2.20256E-06** | 1.54011E-07 | **2.62989E-05** | 9.96174E-08 | 0 | 1.44354E-07 | 2.83364E-07 | **1.42225E-06** | 1.70887E-07 | 3.17556E-07 | **2.12331E-06** | 6.47172E-07 | 5.66482E-07 | 5.42927E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 1.29919E-07 | 2.55028E-07 | **1.28002E-06** | 1.53799E-07 | 2.858E-07 | **1.91098E-06** | 5.82455E-07 | 5.09833E-07 | 4.88634E-09 | 0 | 0 | 0 | 0 | 6.36955E-08 | 2.83364E-08 | 6.27559E-07 | 7.5403E-08 | 1.75326E-07 | **1.20497E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_25 | Model |
| | Location 2 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
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| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Child | Receptor |
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| Location 3 | Secondary Study Area for Country Foods |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_25 | Model |
| Location 2 | Study Area |
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| Teen | Receptor |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_25 | Model |
| Location 2 | Study Area |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_25 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_26 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

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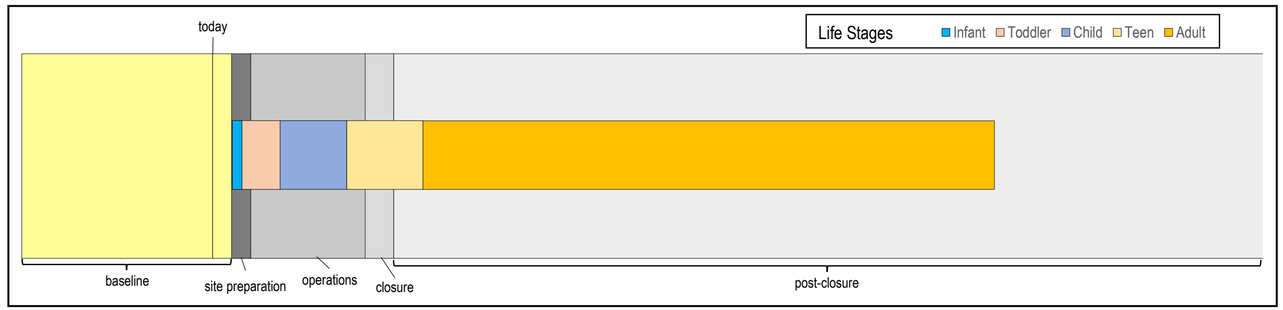


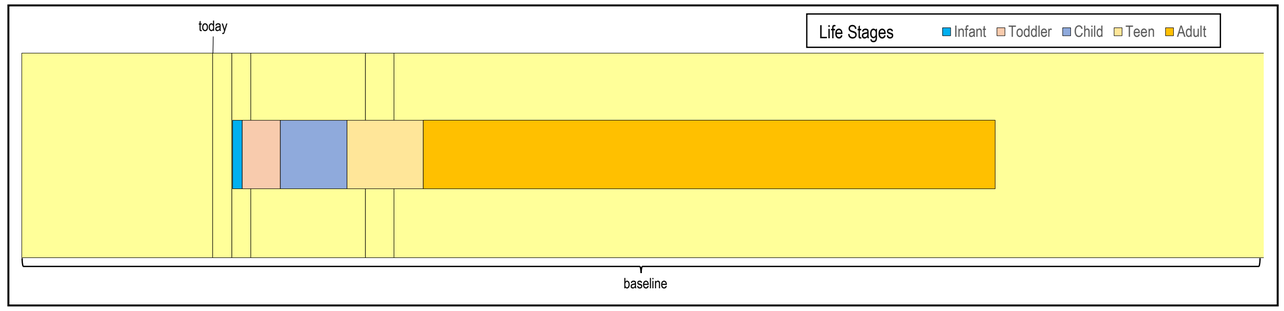

| Cancer_26 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **4.5409E-06** | 1.19427E-08 | 2.08259E-07 | **1.90319E-06** | **2.41751E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_26 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 2.52272E-06 | 6.63483E-09 | 1.15699E-07 | 1.05733E-06 | 1.34306E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_26 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.19427E-08 | 1.93879E-07 | 1.43803E-08 | **1.89633E-06** | 6.86469E-09 | 0 | 1.36454E-09 | 3.29922E-12 | 1.34441E-08 | 1.61535E-09 | 3.55055E-09 | 2.46058E-08 | 8.12962E-09 | 3.24787E-12 | 6.84435E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
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| Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose via Water Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose Forage (mg/kg/d) | Lifetime Average Daily Dose Berries (mg/kg/d) | Lifetime Average Daily Dose Macrophytes (mg/kg/d) | Lifetime Average Daily Dose Labrador Tea (mg/kg/d) | Lifetime Average Daily Dose Root Vegetable (mg/kg/d) | Lifetime Average Daily Dose Moose (mg/kg/d) | Lifetime Average Daily Dose Mallard Duck (mg/kg/d) | Lifetime Average Daily Dose Ruffed Grouse (mg/kg/d) | Lifetime Average Daily Dose Generic Fish (mg/kg/d) | Lifetime Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

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| Location 3 | Secondary Study Area for Country Foods |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_26 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_26 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_27 | Model Simulation | Cancer_27 |
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| Location 3 | Study Area | Location 2 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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| Option | Years |
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| offset | 22 |
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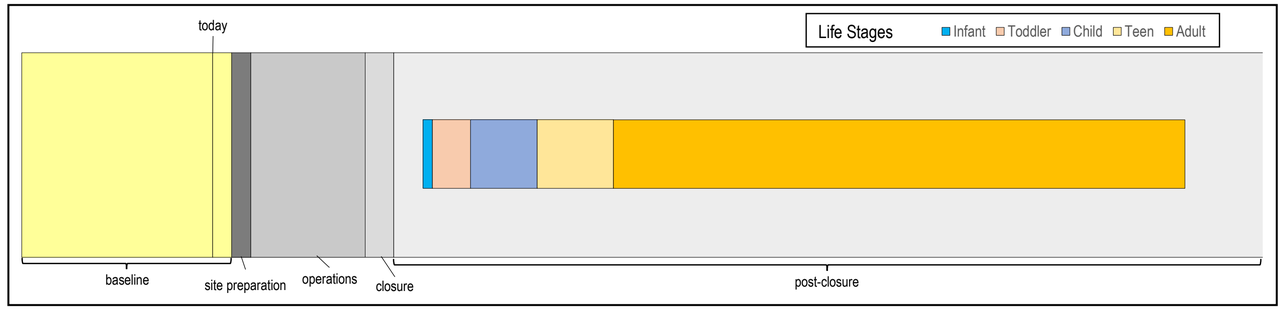


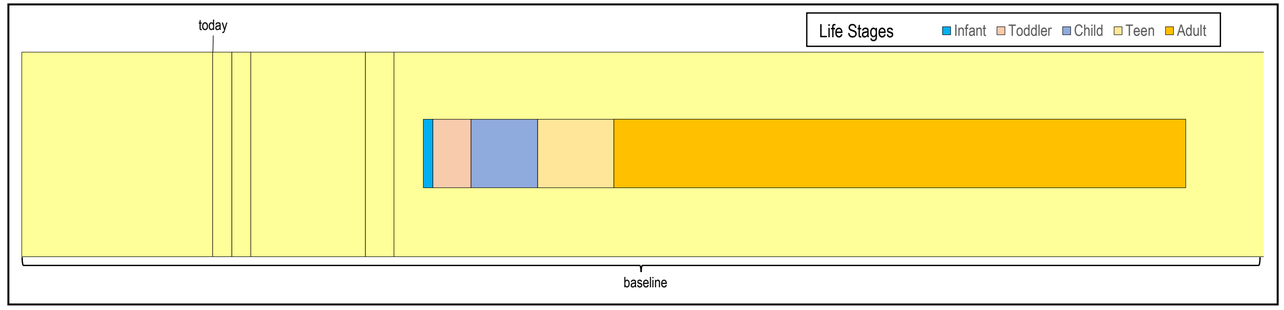

| Cancer_27 | Model |
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| Location 2 | Study Area |
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| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.32945E-06** | 2.84261E-10 | 2.09819E-07 | **1.9033E-06** | 2.16041E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_27 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
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| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.29414E-06 | 1.57923E-10 | 1.16566E-07 | 1.05739E-06 | 1.20023E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.84261E-10 | 1.95386E-07 | 1.44333E-08 | **1.89644E-06** | 6.8651E-09 | 0 | 1.42226E-09 | 4.61378E-12 | 1.40128E-08 | 1.68368E-09 | 3.657E-09 | 2.53432E-08 | 8.37304E-09 | 6.09728E-12 | 7.04928E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| | Cancer_27 | Model |
| | Location 2 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
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| Cancer_27 | Model |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_27 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_27 | Model |
| Location 2 | Study Area |
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| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| 8 | Years Exposed for this page |
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| Cancer_27 | Model |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_27 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_27 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_28 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

Cancer_28
Location 2
Project Only
Post-closure
—
Visitor/Harvestor Exposure Scenario
Indigenous
Location 3
0.45
Location 1
0.05
1

| Offset Model | |
|---|---|
| Option | Years |
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| 3 | +22 |

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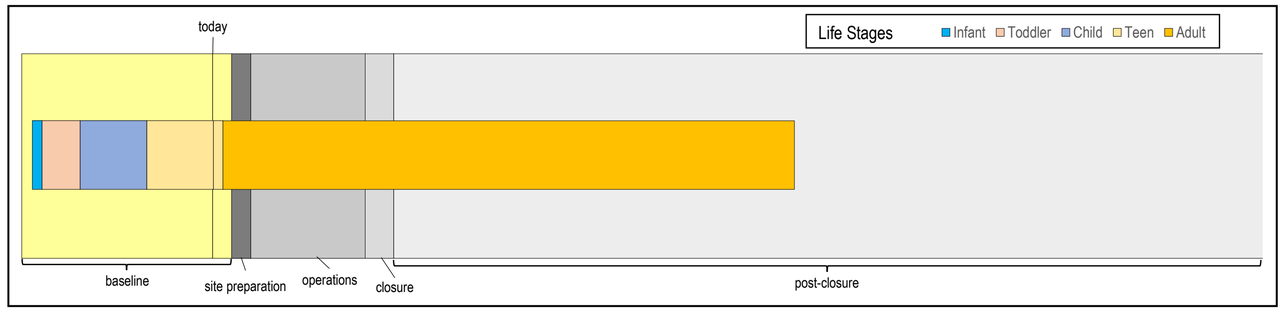
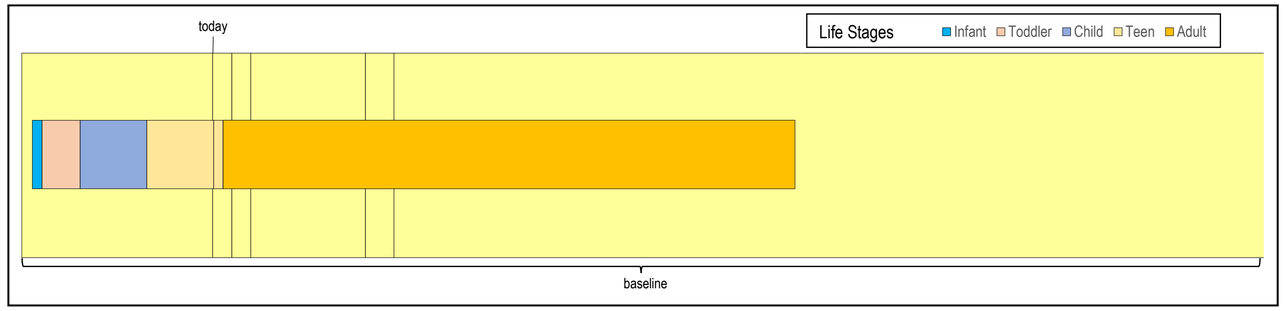
| offset | -19 |



| Cancer_28 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.06038E-05** | 4.23995E-09 | 5.89142E-07 | **6.58718E-06** | **1.34232E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_28 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.14465E-05 | 2.35553E-09 | 3.27301E-07 | 3.65954E-06 | 7.45734E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 4.23995E-09 | 5.5064E-07 | 3.85026E-08 | **6.57472E-06** | 1.24522E-08 | 0 | 1.44354E-07 | 2.83364E-07 | **1.42225E-06** | 1.70887E-07 | 3.17556E-07 | **2.12331E-06** | 6.47172E-07 | 5.66482E-07 | 5.42927E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 1.29919E-07 | 2.55028E-07 | **1.28002E-06** | 1.53799E-07 | 2.858E-07 | **1.91098E-06** | 5.82455E-07 | 5.09833E-07 | 4.88634E-09 | 0 | 0 | 0 | 0 | 6.36955E-08 | 2.83364E-08 | 6.27559E-07 | 7.5403E-08 | 1.75326E-07 | **1.20497E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_28 | Model |
| | Location 2 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Cancer_28 | Model |
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| Baseline | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Cancer_28 | Model |
| Location 2 | Study Area |
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| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_28 | Model |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_28 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| 80 | life expectancy |

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| Cancer_28 | Model |
| Location 2 | Study Area |
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| Post-closure | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_29 | Model Simulation | Cancer_29 |
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| Location 3 | Study Area | Location 2 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
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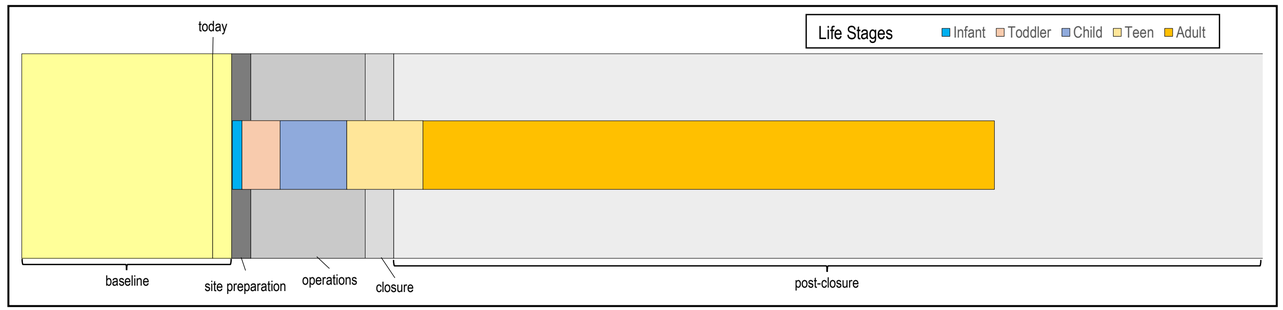


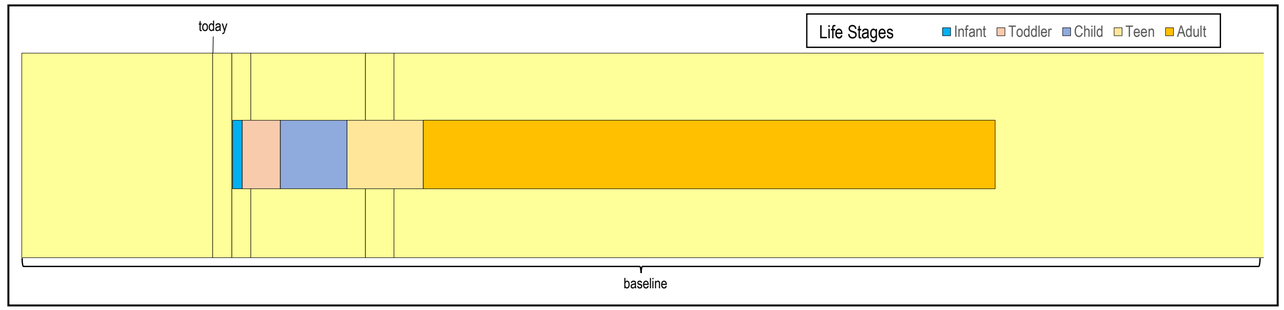

| Cancer_29 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.9475E-06** | 2.98567E-09 | 5.20648E-08 | 4.7494E-07 | **2.41751E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_29 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.6375E-06 | 1.65871E-09 | 2.89249E-08 | 2.63856E-07 | 1.34306E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_29 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.98567E-09 | 4.84697E-08 | 3.59507E-09 | 4.74082E-07 | 8.58086E-10 | 0 | 1.36454E-09 | 3.29922E-12 | 1.34441E-08 | 1.61535E-09 | 3.55055E-09 | 2.46058E-08 | 8.12962E-09 | 3.24787E-12 | 6.84435E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| | Cancer_29 | Model |
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| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_29 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
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| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Site Preparation and Construction | Project Phase |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_29 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
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| Cancer_29 | Model |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_30 | Model Simulation | Cancer_30 |
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| Location 3 | Study Area | Location 2 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
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| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

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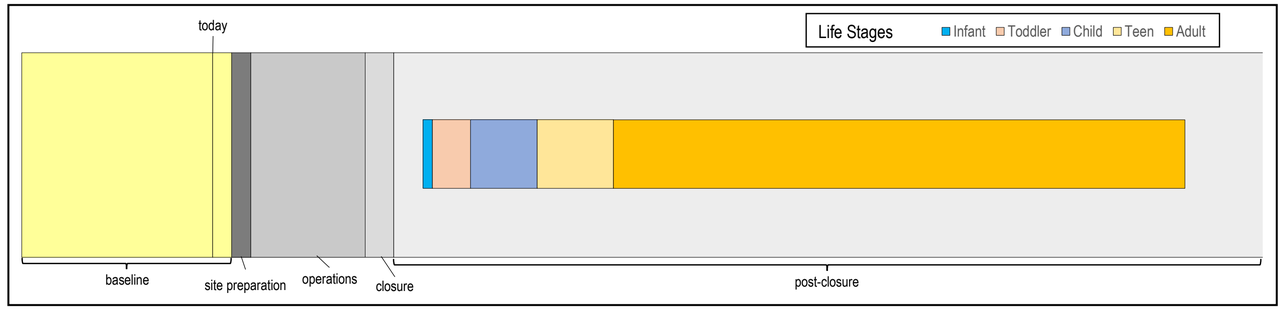


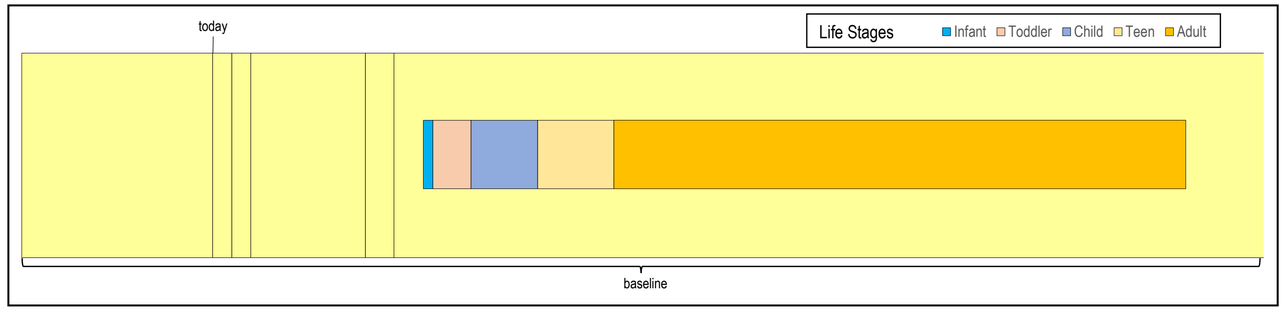

| Cancer_30 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.43535E-07 | 7.10653E-11 | 5.24548E-08 | 4.74968E-07 | 2.16041E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_30 | Model |
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| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 4.13075E-07 | 3.94807E-11 | 2.91415E-08 | 2.63871E-07 | 1.20023E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 7.10653E-11 | 4.88465E-08 | 3.60831E-09 | 4.7411E-07 | 8.58138E-10 | 0 | 1.42226E-09 | 4.61378E-12 | 1.40128E-08 | 1.68368E-09 | 3.657E-09 | 2.53432E-08 | 8.37304E-09 | 6.09728E-12 | 7.04928E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_30 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_30 | Model |
| Location 2 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_30 | Model |
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| Location 3 | Secondary Study Area for Country Foods |
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| Cancer_30 | Model |
| Location 2 | Study Area |
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| — | Project Phase |
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| Cancer_31 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

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| Offset Model | |
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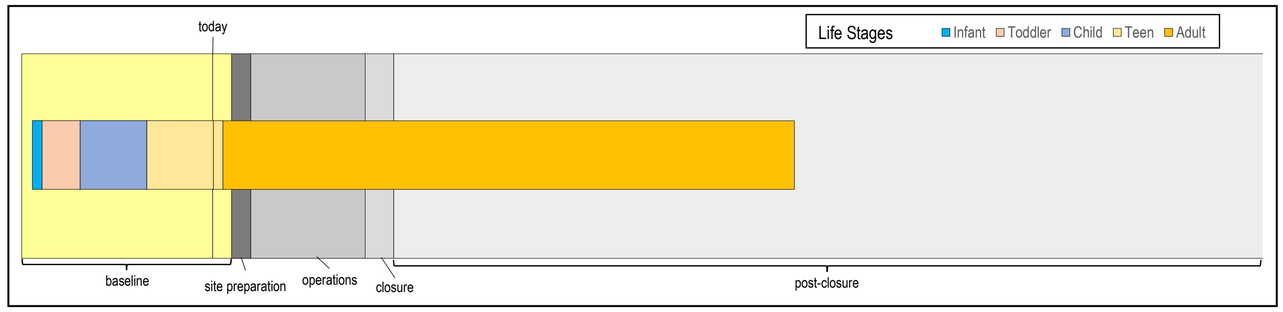


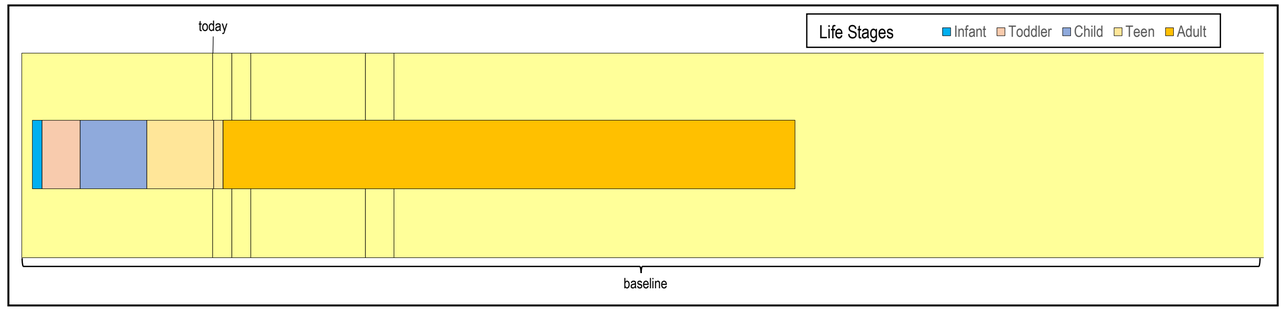

| Cancer_31 | Model |
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| Location 2 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000136167** | 5.195E-08 | **3.94405E-06** | **9.14975E-05** | **4.06737E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.56485E-05 | 2.88611E-08 | 2.19114E-06 | 5.0832E-05 | 2.25965E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Location 2 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.195E-08 | **3.46568E-06** | 4.78379E-07 | **9.1169E-05** | 3.28479E-07 | 0 | 4.32443E-07 | 8.52438E-07 | **4.26064E-06** | 5.11929E-07 | **1.26296E-06** | **8.44277E-06** | **2.57191E-06** | **1.12653E-06** | 2.15758E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 3.89199E-07 | 7.67194E-07 | **3.83458E-06** | 4.60736E-07 | **1.13666E-06** | **7.5985E-06** | **2.31472E-06** | **1.01387E-06** | 1.94182E-08 | 0 | 0 | 0 | 0 | 8.42035E-08 | 8.33147E-08 | 8.29614E-07 | 9.96805E-08 | 2.47474E-07 | **1.66593E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_31 | Model |
| | Location 2 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| | — | life expectancy |

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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Location 2 | Study Area |
| Project | Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 2 | Study Area |
| Project | Scenario |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| 8 | Years Exposed for this page |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Study Area |
| Project | Scenario |
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| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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| Cancer_31 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_32 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

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| Offset Model | |
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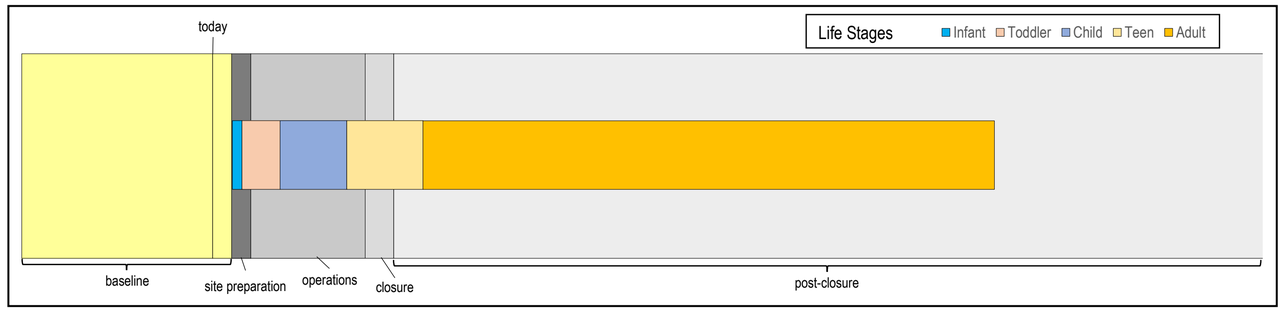


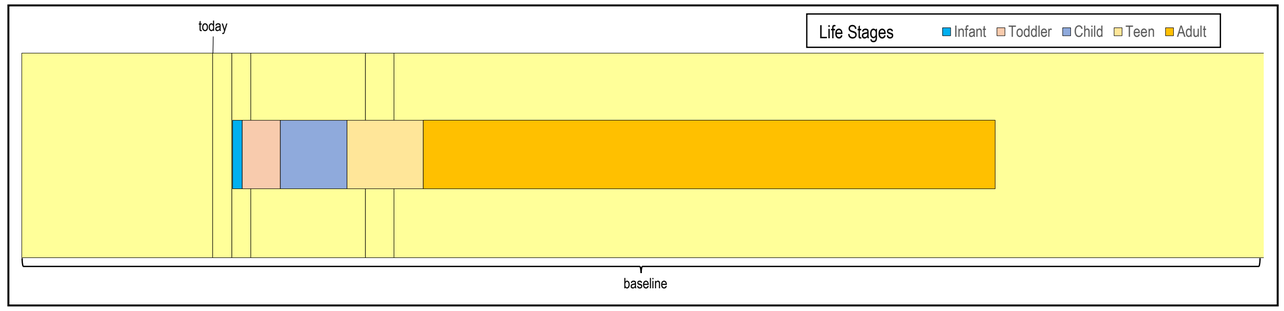

| Cancer_32 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000136433** | 7.13835E-08 | **3.94984E-06** | **9.14976E-05** | **4.09139E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_32 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.5796E-05 | 3.96575E-08 | 2.19436E-06 | 5.0832E-05 | 2.273E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_32 | Model |
| Location 2 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 7.13835E-08 | **3.471E-06** | 4.78838E-07 | **9.11692E-05** | 3.2848E-07 | 0 | 4.32904E-07 | 8.52439E-07 | **4.26518E-06** | 5.12474E-07 | **1.2639E-06** | **8.44928E-06** | **2.57406E-06** | **1.12653E-06** | 2.15939E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_32 | Model |
| | Location 2 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_32 | Model |
|---|---|
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_32 | Model |
| Location 2 | Study Area |
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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
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| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_32 | Model |
| Location 2 | Study Area |
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| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_32 | Model |
| Location 2 | Study Area |
| Project | Scenario |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_32 | Model |
| Location 2 | Study Area |
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| Adult | Receptor |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_33 | Model Simulation |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | OffSet (years) |

| Offset Model | |
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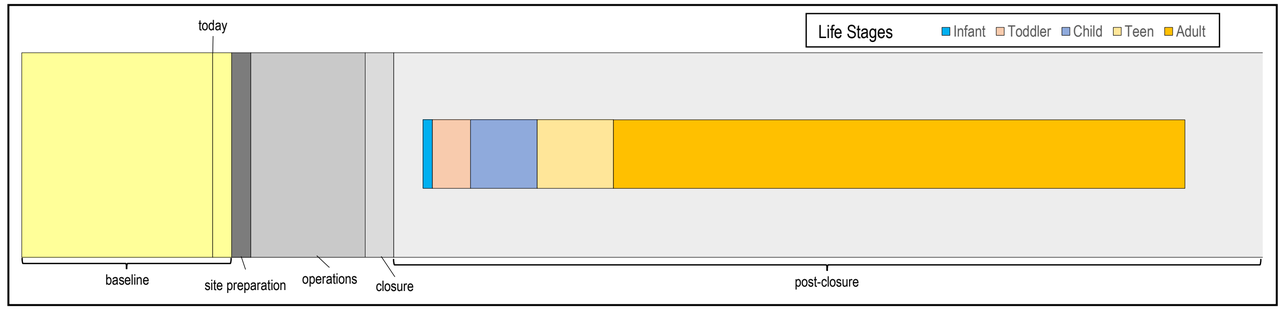


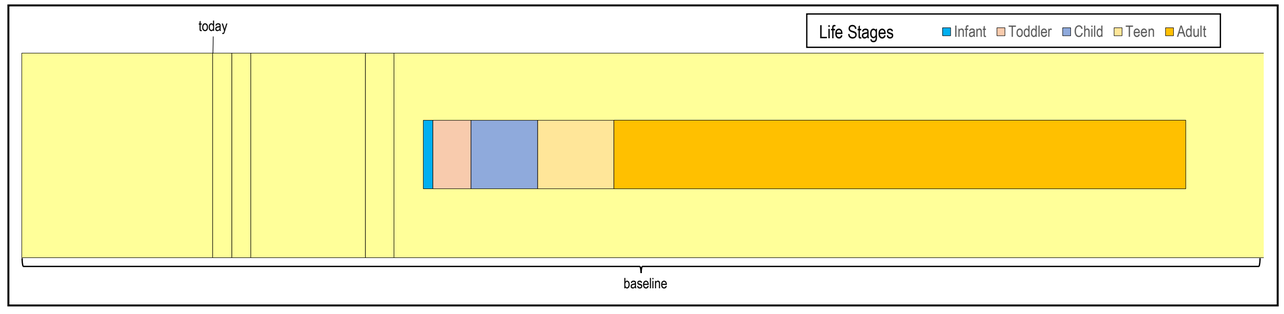

| Cancer_33 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000134568** | 2.28259E-08 | **3.9514E-06** | **9.14978E-05** | **3.90965E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_33 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.47602E-05 | 1.26811E-08 | 2.19522E-06 | 5.08321E-05 | 2.17203E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.47251E-06** | 4.78891E-07 | **9.11693E-05** | 3.2848E-07 | 0 | 4.32961E-07 | 8.5244E-07 | **4.26575E-06** | 5.12542E-07 | **1.264E-06** | **8.45002E-06** | **2.57431E-06** | **1.12653E-06** | 2.15959E-08 | 0 |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_33 | Model |
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| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_33 | Model |
| Location 2 | Study Area |
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| Cancer_34 | Model Simulation |
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| Location 3 | Study Area |
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| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

| Offset Model | |
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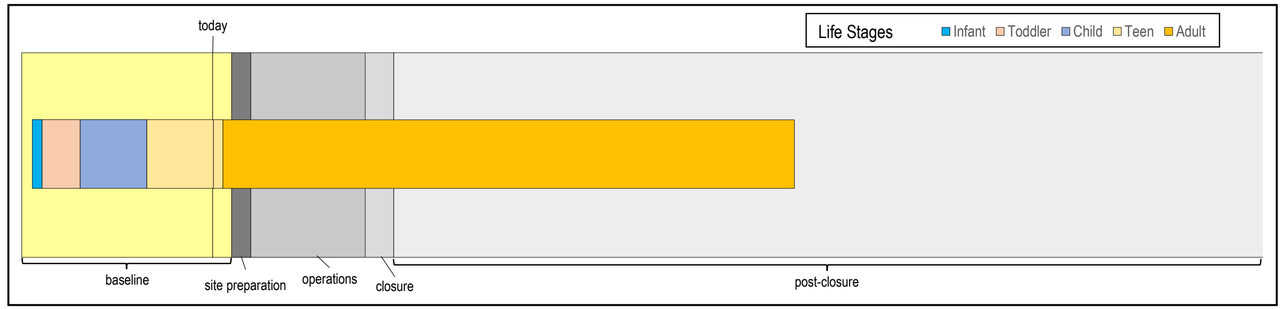


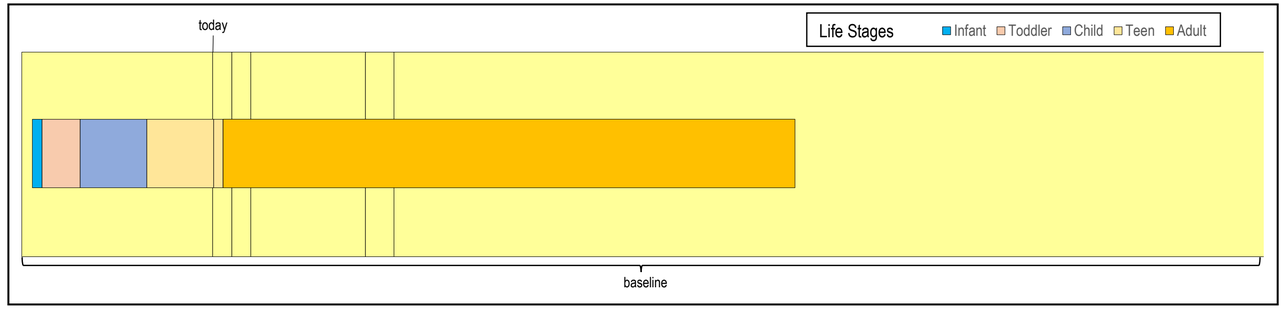

| Cancer_34 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.4506E-05** | 1.29875E-08 | 9.86014E-07 | **2.28333E-05** | **4.06737E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_34 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.58367E-05 | 7.21527E-09 | 5.47785E-07 | 1.26852E-05 | 2.25965E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.29875E-08 | 8.66419E-07 | 1.19595E-07 | **2.27923E-05** | 4.10599E-08 | 0 | 4.32443E-07 | 8.52438E-07 | **4.26064E-06** | 5.11929E-07 | **1.26296E-06** | **8.44277E-06** | **2.57191E-06** | **1.12653E-06** | 2.15758E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 3 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
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| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_34 | Model |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_34 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_35 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

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| Offset Model | |
| Option | Years |
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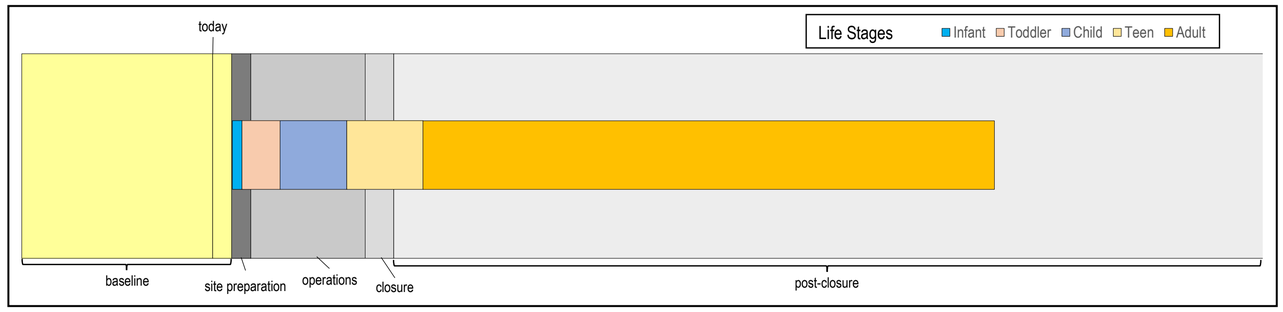


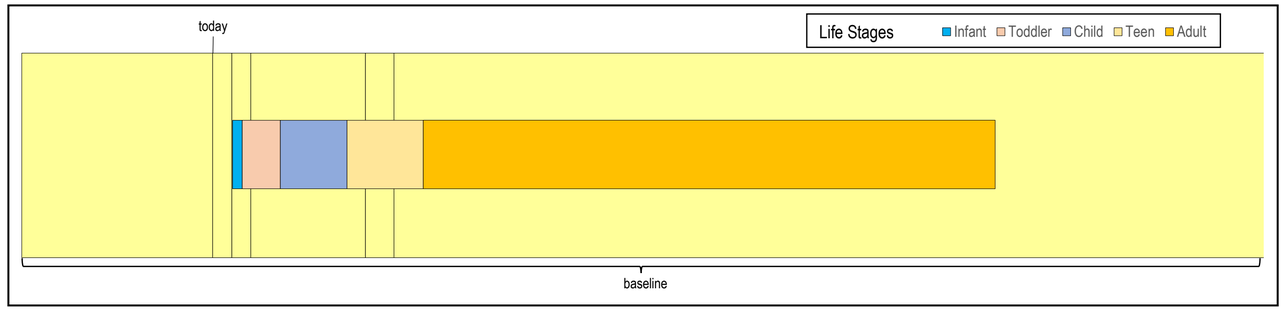

| Cancer_35 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.47526E-05** | 1.78459E-08 | 9.87461E-07 | **2.28334E-05** | **4.09139E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_35 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.59737E-05 | 9.91437E-09 | 5.48589E-07 | 1.26852E-05 | 2.273E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.78459E-08 | 8.67751E-07 | 1.1971E-07 | **2.27923E-05** | 4.106E-08 | 0 | 4.32904E-07 | 8.52439E-07 | **4.26518E-06** | 5.12474E-07 | **1.2639E-06** | **8.44928E-06** | **2.57406E-06** | **1.12653E-06** | 2.15939E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_35 | Model |
| | Location 2 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 3 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

| No_Unit Concentration Media | No_Unit Concentration Media | No_Unit Concentration Media |

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|---|---|
| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
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| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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|---|---|
| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
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| Adult | Receptor |
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| Cancer_35 | Model |
| Location 2 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_35 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_36 | Model Simulation | Cancer_36 |
|---|---|---|
| Location 3 | Study Area | Location 2 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 3 | Secondary Study Area for Country Foods | Location 3 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
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| 3 | +22 |

| offset | 22 |
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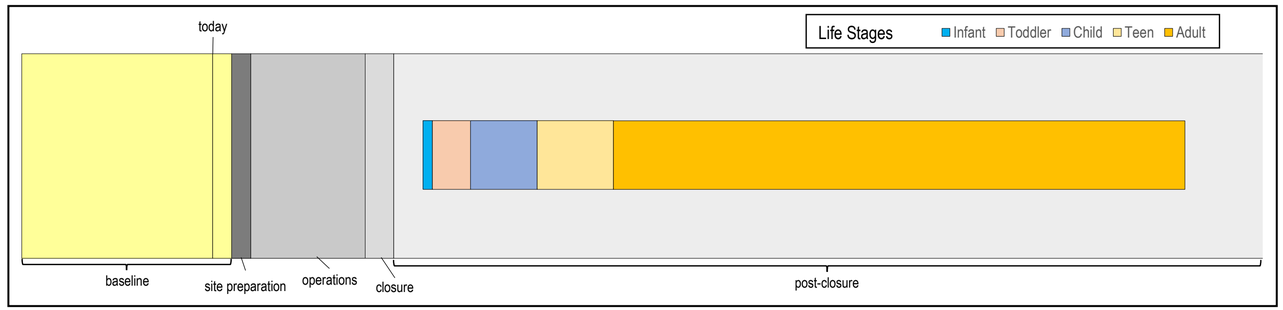


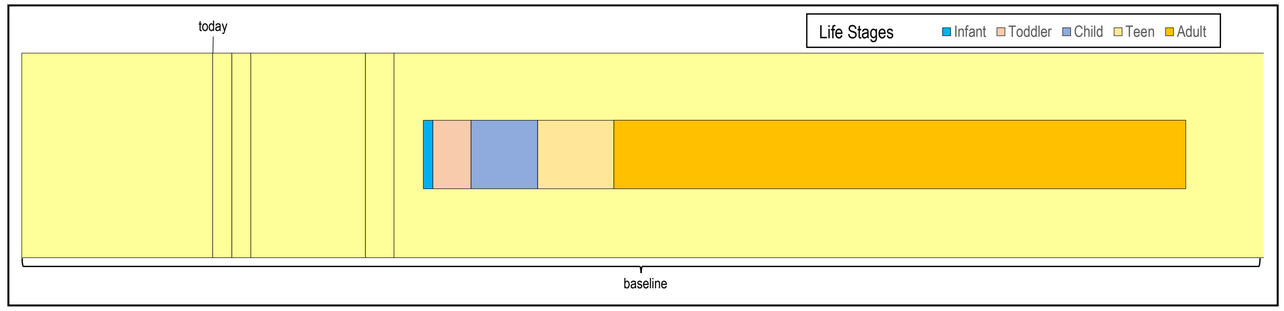

| Cancer_36 | Model |
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| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.29234E-05** | 5.70648E-09 | 9.87851E-07 | **2.28334E-05** | **3.90965E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_36 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.49574E-05 | 3.17027E-09 | 5.48806E-07 | 1.26852E-05 | 2.17203E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_36 | Model |
| Location 2 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 3 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.68128E-07 | 1.19723E-07 | **2.27923E-05** | 4.106E-08 | 0 | 4.32961E-07 | 8.5244E-07 | **4.26575E-06** | 5.12542E-07 | **1.264E-06** | **8.45002E-06** | **2.57431E-06** | **1.12653E-06** | 2.15959E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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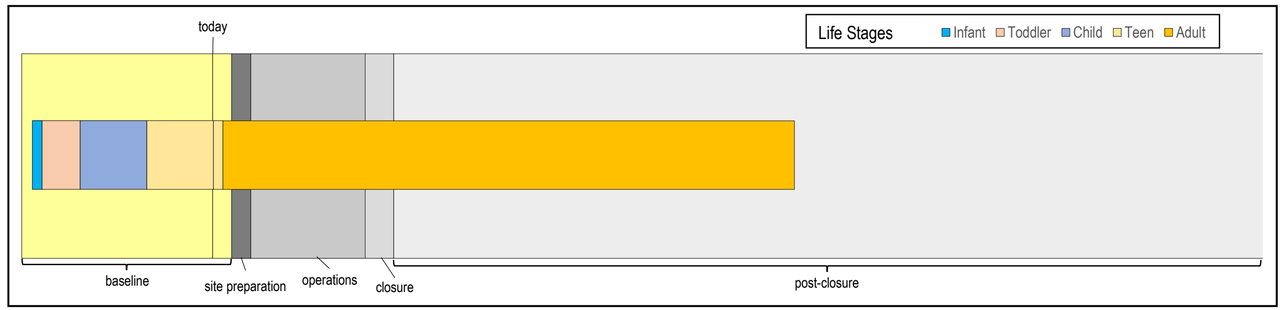


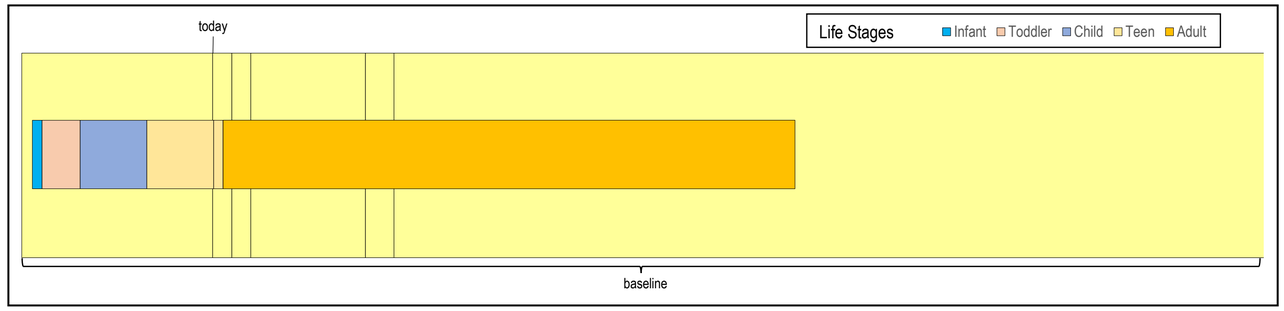

| Cancer_37 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Cancer_37 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 1 | Tertiary Study Area for Country Foods |
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| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
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| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| 45% | Fraction of Country foods from Secondary Area |
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| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_37 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_37 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_37 | Model |
| Location 3 | Study Area |
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| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| | ref_HH Concentration Media_ | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_37 | Model |
| Location 3 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_37 | Model |
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| Base | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_37 | Model |
| Location 3 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Study Area |
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| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_37 | Model |
| Location 3 | Study Area |
| Base | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Study Area |
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| Cancer_37 | Model |
| Location 3 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_37 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_38 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

Cancer_38
Location 3
Base
Baseline
—
Residential Exposure Scenario
Indigenous
Location 2
0.45
Location 1
0.05
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| Offset Model | |
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| Option | Years |
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| 3 | +22 |

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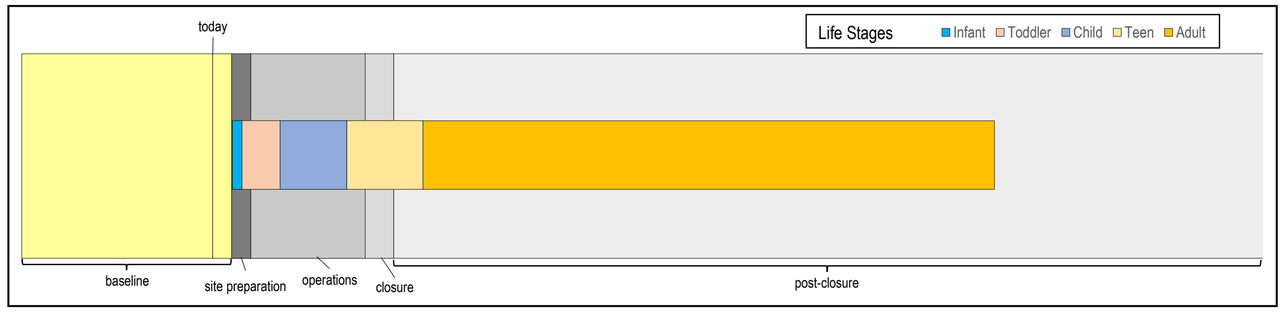
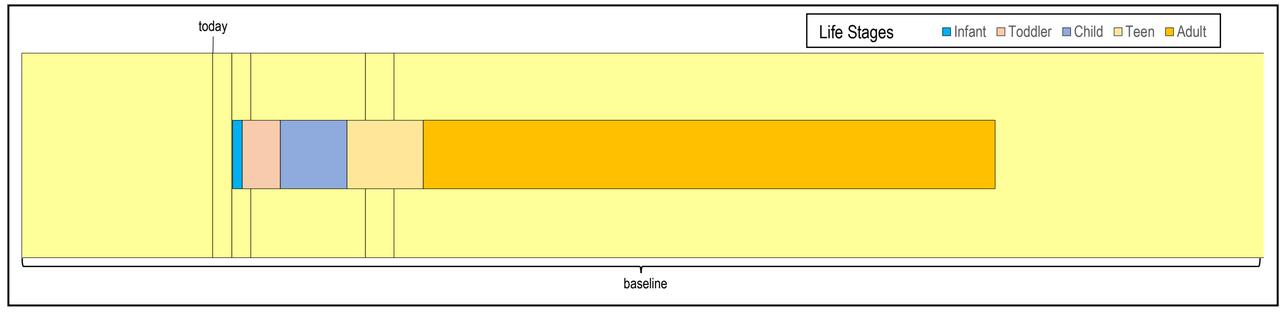
| offset | 2 |



| Cancer_38 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_38 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_38 | Model |
| | Location 3 | Study Area |
| | Base | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
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| No_Unit Concentration Media | No_Unit Concentration Media | No_Unit Concentration Media |

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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_38 | Model |
| Location 3 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_38 | Model |
| Location 3 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_38 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_39 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | OffSet (years) |

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| Offset Model | |
| Option | Years |
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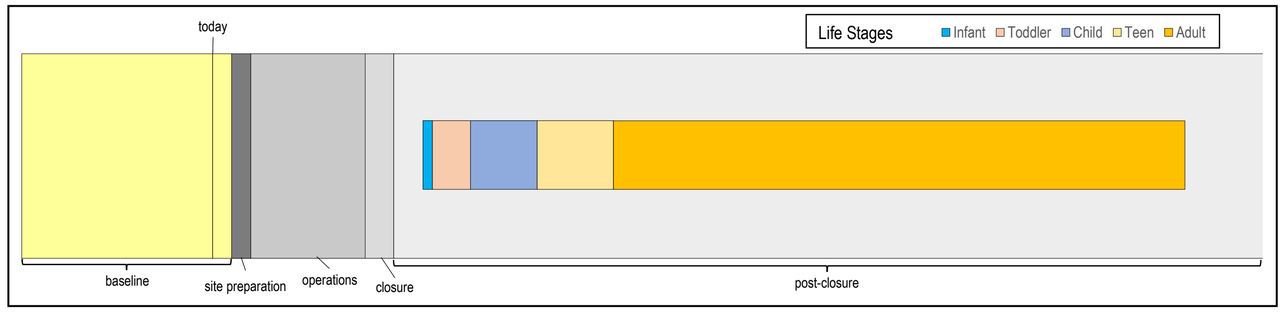


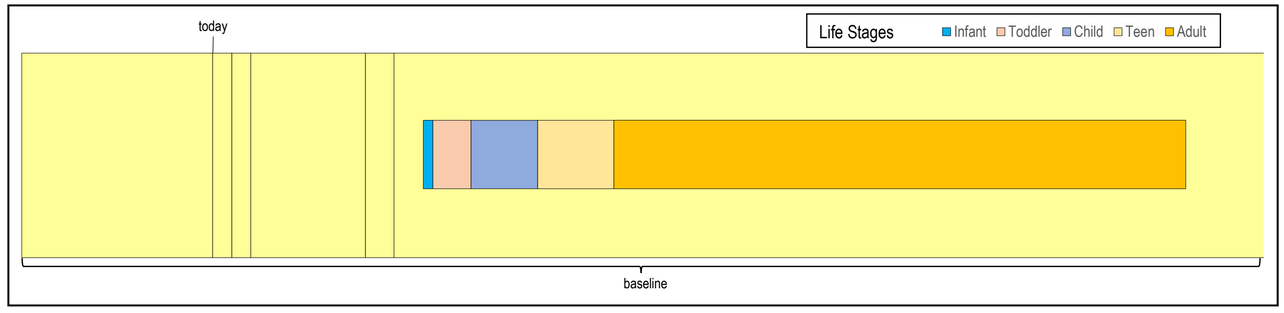

| Cancer_39 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.00013435** | 2.28259E-08 | **3.93907E-06** | **9.14973E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_39 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.46391E-05 | 1.26811E-08 | 2.18837E-06 | 5.08318E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_39 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
| v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v |

| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.46171E-06** | 4.77361E-07 | **9.11688E-05** | 3.28478E-07 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
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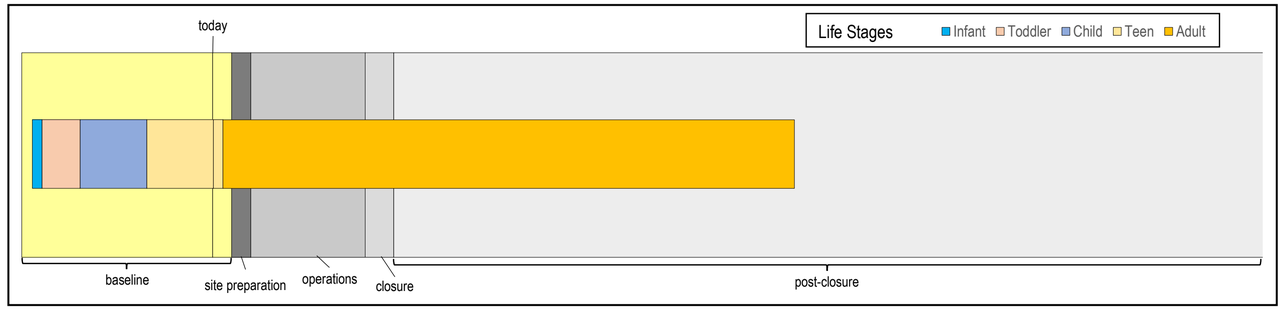


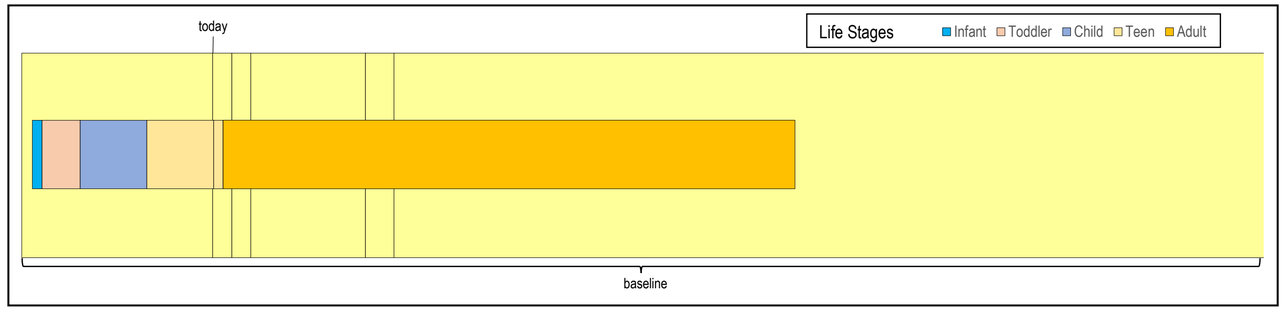

| Cancer_40 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Cancer_40 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
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| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media_ | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media_ | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| Cancer_40 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_41 | Model Simulation | Cancer_41 |
| Location 3 | Study Area | Location 3 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 2 |
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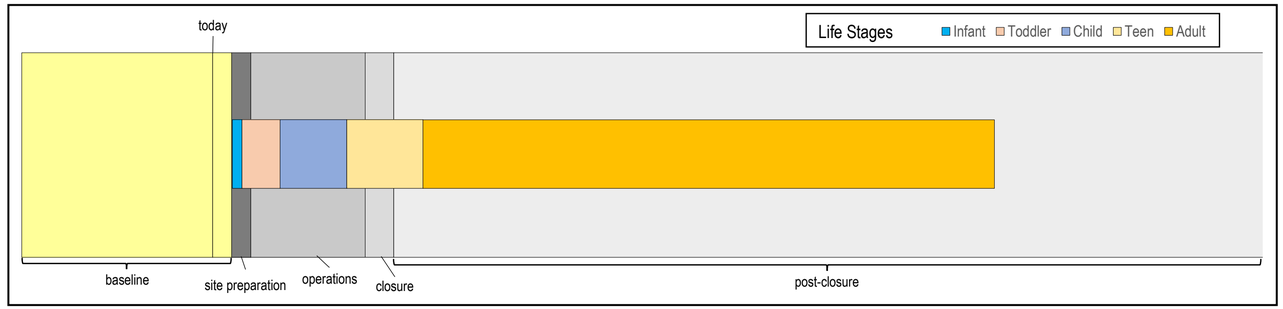


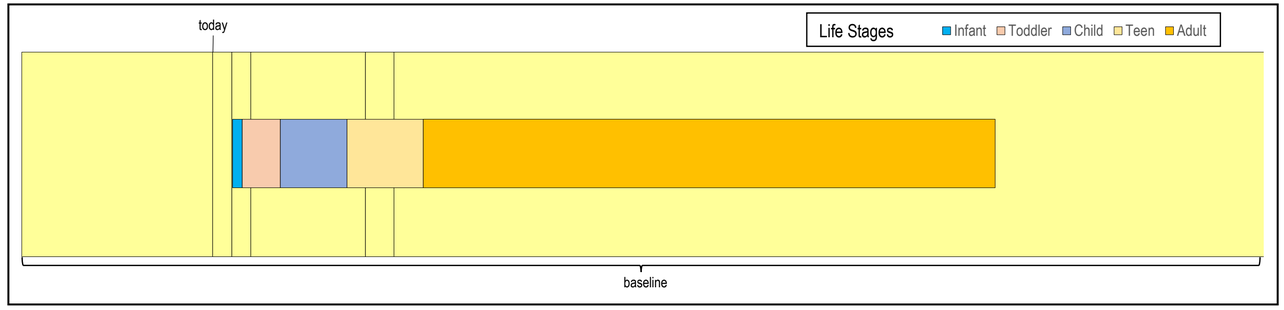

| Cancer_41 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_41 | Model |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_41 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_41 | Model |
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| Cancer_41 | Model |
| Location 3 | Study Area |
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| Cancer_41 | Model |
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| Cancer_41 | Model |
| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_41 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_41 | Model |
| Location 3 | Study Area |
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| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_41 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_41 | Model |
| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_41 | Model |
| Location 3 | Study Area |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_42 | Model Simulation | Cancer_42 |
| Location 3 | Study Area | Location 3 |
| Project | Scenario | Base |
| — | Project Phase | Baseline |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
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| offset | 22 |
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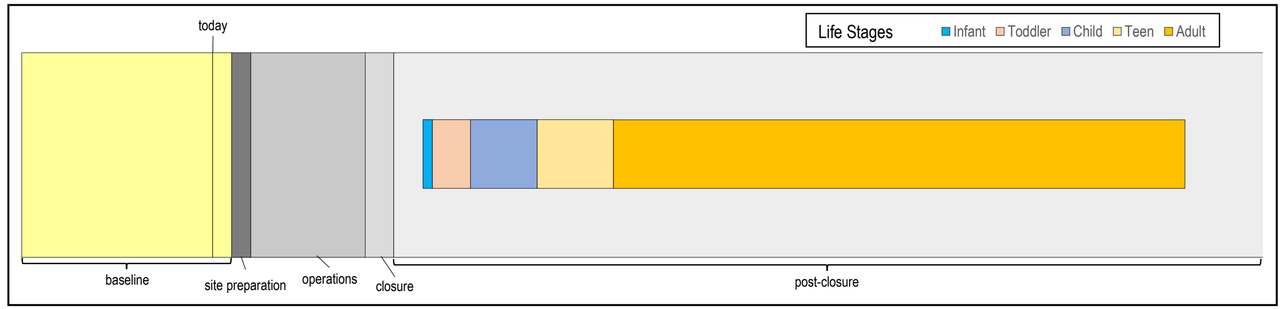


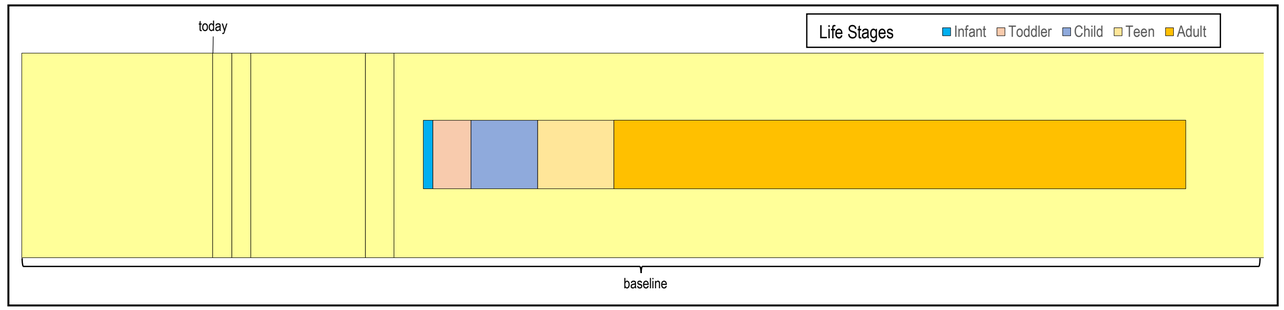

| Cancer_42 | Model |
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| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.27149E-05** | 5.70648E-09 | 9.84768E-07 | **2.28333E-05** | **3.88911E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_42 | Model |
|---|---|
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.48416E-05 | 3.17027E-09 | 5.47093E-07 | 1.26851E-05 | 2.16062E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_42 | Model |
| Location 3 | Study Area |
| Base | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.65428E-07 | 1.1934E-07 | **2.27922E-05** | 4.10598E-08 | 0 | 4.31539E-07 | 8.52435E-07 | **4.25173E-06** | 5.10858E-07 | **1.26035E-06** | **8.42467E-06** | **2.56593E-06** | **1.12652E-06** | 2.15254E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

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| Location 3 | |
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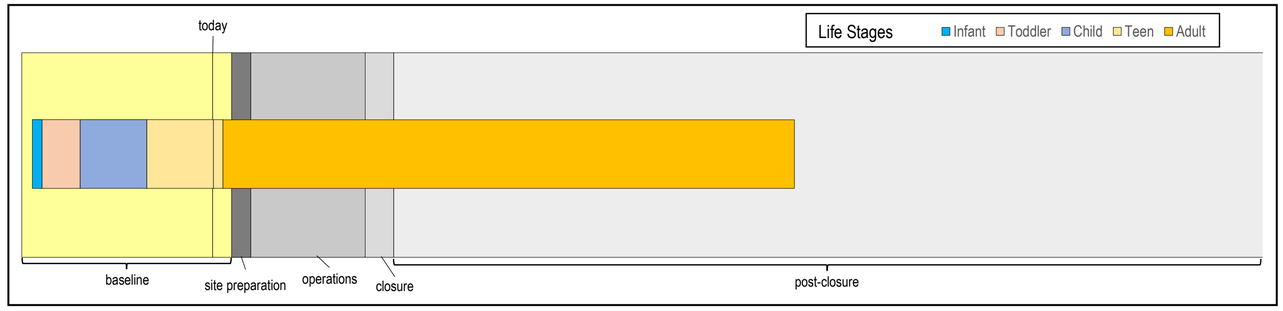


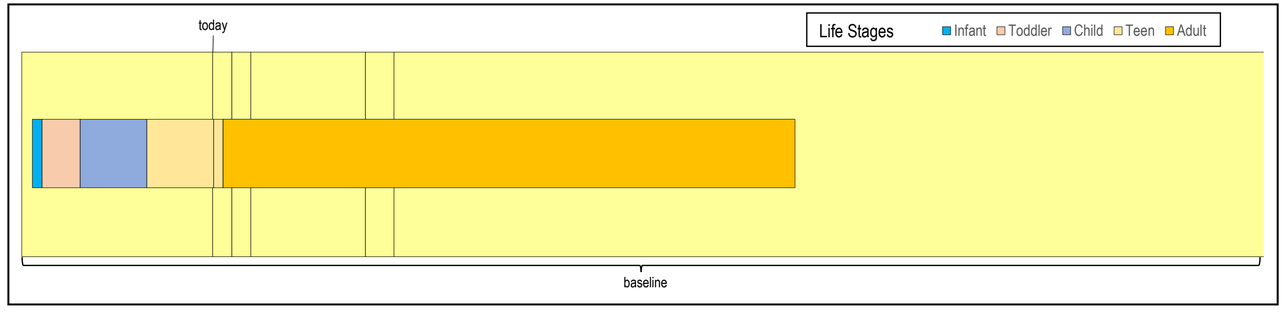

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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
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| Arsenic (As) | Arsenic | As | **4.21956E-05** | 1.72705E-08 | **2.35657E-06** | **2.63985E-05** | **1.34232E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
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| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Arsenic (As) | Arsenic | As | 2.3442E-05 | 9.59472E-09 | 1.30921E-06 | 1.46658E-05 | 7.45734E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| Yes | Arsenic (As) | Arsenic | As | 1.72705E-08 | **2.20256E-06** | 1.54011E-07 | **2.62989E-05** | 9.96174E-08 | 0 | 1.44354E-07 | 2.83364E-07 | **1.42225E-06** | 1.70887E-07 | 3.17556E-07 | **2.12331E-06** | 6.47172E-07 | 5.66482E-07 | 5.42927E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| | Cancer_43 | Model |
| | Location 3 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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|---|---|
| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
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| Cancer_43 | Model |
| Location 3 | Study Area |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_43 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_44 | Model Simulation | Cancer_44 |
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| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 2 |
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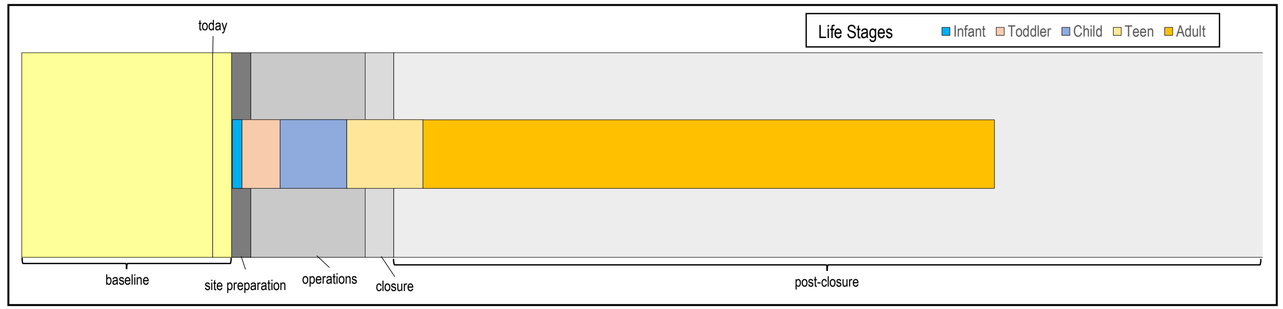


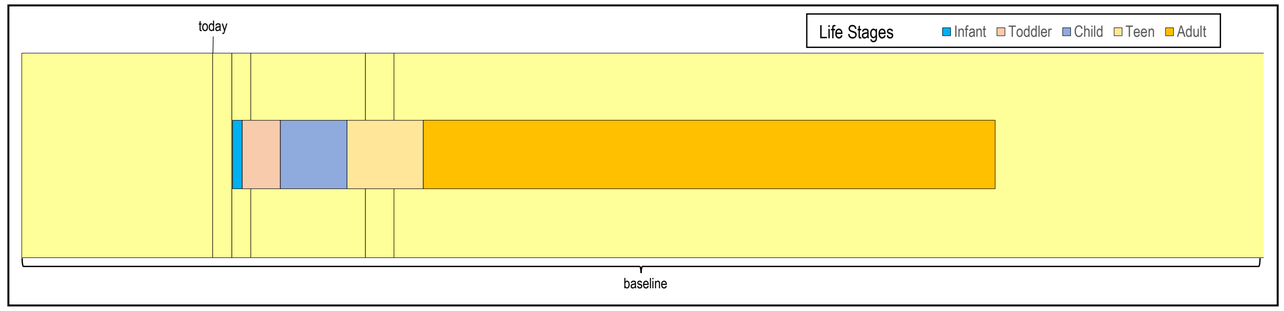

| Cancer_44 | Model |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **4.54104E-06** | 1.208E-08 | 2.08259E-07 | **1.90319E-06** | **2.41751E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_44 | Model |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 2.5228E-06 | 6.71111E-09 | 1.15699E-07 | 1.05733E-06 | 1.34306E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_44 | Model |
| Location 3 | Study Area |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.208E-08 | 1.93879E-07 | 1.43803E-08 | **1.89633E-06** | 6.86469E-09 | 0 | 1.36454E-09 | 3.29922E-12 | 1.34441E-08 | 1.61535E-09 | 3.55055E-09 | 2.46058E-08 | 8.12962E-09 | 3.24787E-12 | 6.84435E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_44 | Model |
| | Location 3 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

| Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media | Concentration Media |
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| Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
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| Carcinoge n? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Soil Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose via Water Ingestion (mg/kg/d) | Lifetime Average Daily Dose via Water Dermal Exposure (mg/kg/d) | Lifetime Average Daily Dose Forage (mg/kg/d) | Lifetime Average Daily Dose Berries (mg/kg/d) | Lifetime Average Daily Dose Macrophytes (mg/kg/d) | Lifetime Average Daily Dose Labrador Tea (mg/kg/d) | Lifetime Average Daily Dose Root Vegetable (mg/kg/d) | Lifetime Average Daily Dose Moose (mg/kg/d) | Lifetime Average Daily Dose Mallard Duck (mg/kg/d) | Lifetime Average Daily Dose Ruffed Grouse (mg/kg/d) | Lifetime Average Daily Dose Generic Fish (mg/kg/d) | Lifetime Average Daily Dose Snowshoe Hare (mg/kg/d) | — | — | —

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
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| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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|---|---|
| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_44 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_45 | Model Simulation | Cancer_45 |
|---|---|---|
| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Residential Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
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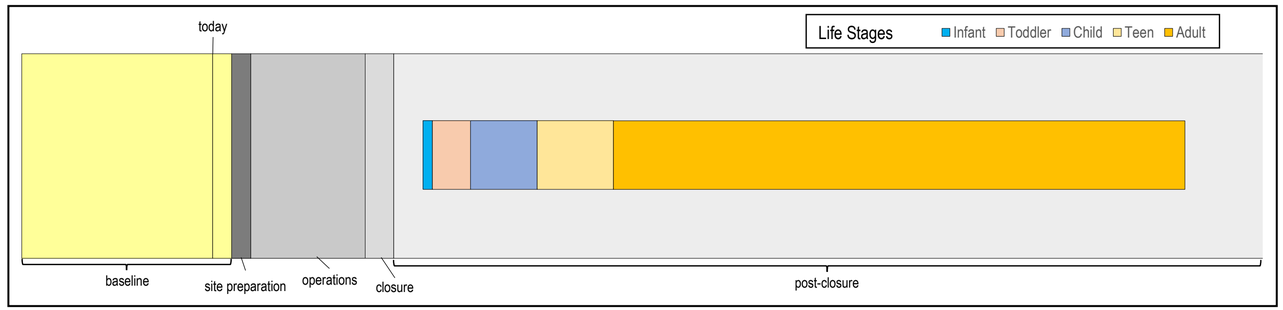


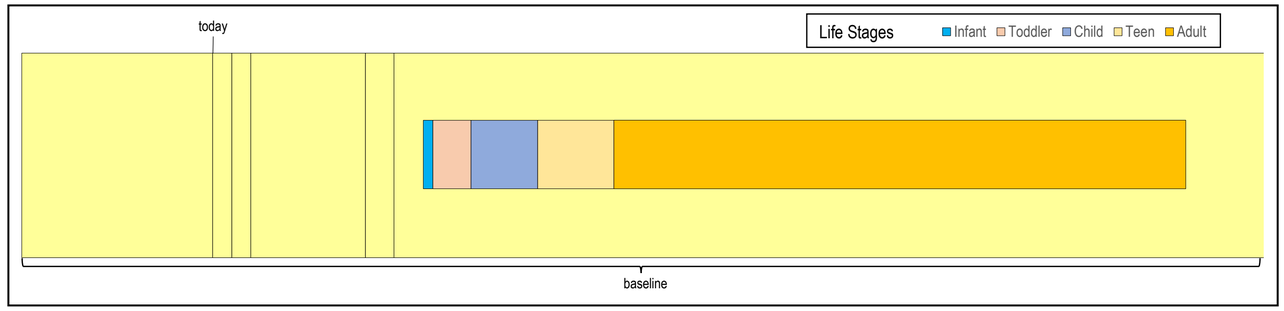

| Cancer_45 | Model |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.32945E-06** | 2.84261E-10 | 2.09819E-07 | **1.9033E-06** | 2.16041E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_45 | Model |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.29414E-06 | 1.57923E-10 | 1.16566E-07 | 1.05739E-06 | 1.20023E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.84261E-10 | 1.95386E-07 | 1.44333E-08 | **1.89644E-06** | 6.8651E-09 | 0 | 1.42226E-09 | 4.61378E-12 | 1.40128E-08 | 1.68368E-09 | 3.657E-09 | 2.53432E-08 | 8.37304E-09 | 6.09728E-12 | 7.04928E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_46 | Model Simulation | Cancer_46 |
| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| -19 | OffSet (years) | 1 |

| Offset Model | |
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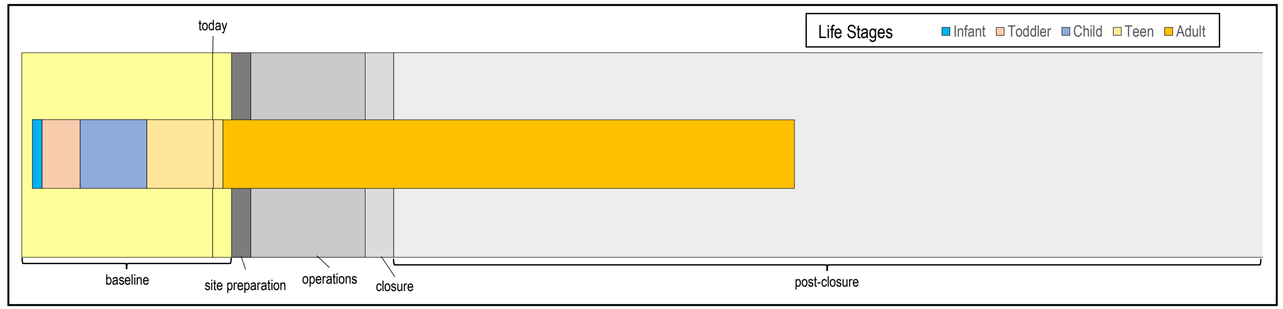


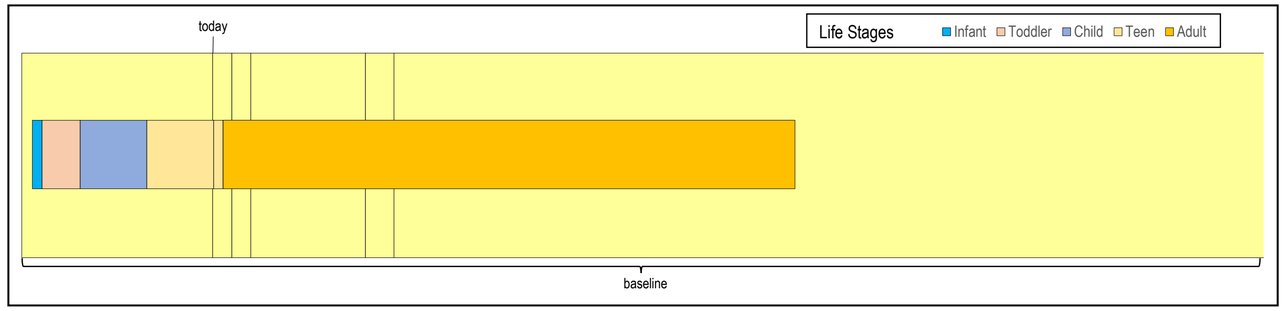

| Cancer_46 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.06038E-05** | 4.31763E-09 | 5.89142E-07 | **6.58718E-06** | **1.34232E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Cancer_46 | Model |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
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| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 4.31763E-09 | 5.5064E-07 | 3.85026E-08 | **6.57472E-06** | 1.24522E-08 | 0 | 1.44354E-07 | 2.83364E-07 | **1.42225E-06** | 1.70887E-07 | 3.17556E-07 | **2.12331E-06** | 6.47172E-07 | 5.66482E-07 | 5.42927E-09 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| No — | Project Phase |
| No — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| 3 Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| no — | Years Exposed for this page |
| — | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 4 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 8 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_46 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

| Cancer_47 | Model Simulation | Cancer_47 |
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| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 2 |
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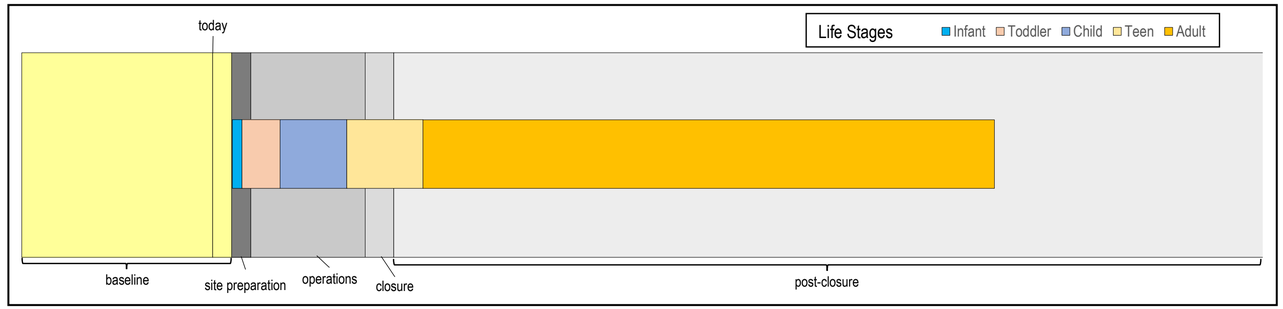


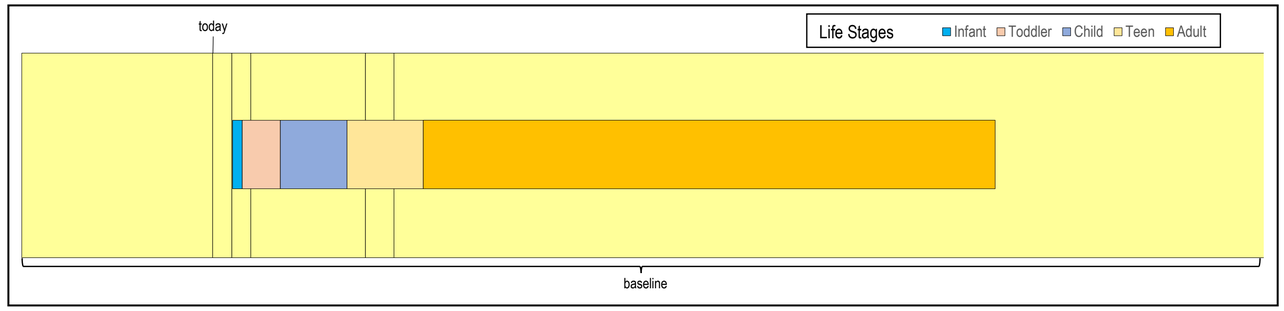

| Cancer_47 | Model |
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| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **2.94753E-06** | 3.02E-09 | 5.20648E-08 | 4.7494E-07 | **2.41751E-06** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_47 | Model |
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| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 1.63752E-06 | 1.67778E-09 | 2.89249E-08 | 2.63856E-07 | 1.34306E-06 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 3.02E-09 | 4.84697E-08 | 3.59507E-09 | 4.74082E-07 | 8.58086E-10 | 0 | 1.36454E-09 | 3.29922E-12 | 1.34441E-08 | 1.61535E-09 | 3.55055E-09 | 2.46058E-08 | 8.12962E-09 | 3.24787E-12 | 6.84435E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 1.22809E-09 | 2.9693E-12 | 1.20997E-08 | 1.45381E-09 | 3.1955E-09 | 2.21452E-08 | 7.31666E-09 | 2.92308E-12 | 6.15992E-11 | 0 | 0 | 0 | 0 | 7.31297E-08 | 3.29922E-13 | 7.20509E-07 | 8.65713E-08 | 1.40886E-07 | 9.70691E-07 |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_47 | Model |
| | Location 3 | Study Area |
| | Project Only | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| | — | life expectancy |

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_47 | Model |
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| Project Only | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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|---|---|
| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Operations | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_47 | Model |
| Location 3 | Study Area |
| Project Only | Scenario |
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| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_48 | Model Simulation | Cancer_48 |
| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project Only |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
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| 3 | +22 |

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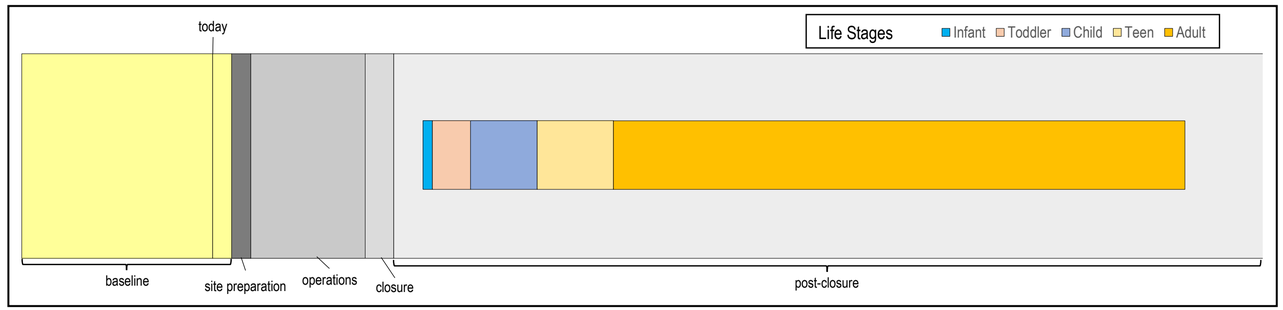


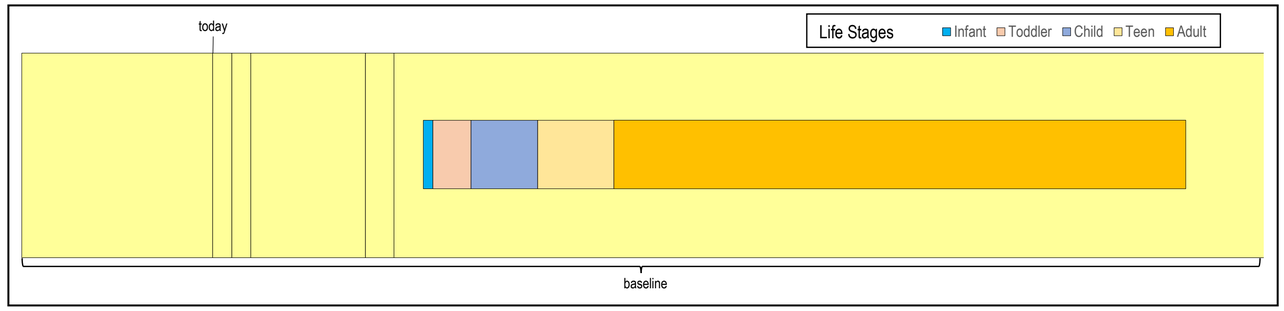

| Cancer_48 | Model |
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| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.43535E-07 | 7.10653E-11 | 5.24548E-08 | 4.74968E-07 | 2.16041E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
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| Cancer_48 | Model |
|---|---|
| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 4.13075E-07 | 3.94807E-11 | 2.91415E-08 | 2.63871E-07 | 1.20023E-07 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_48 | Model |
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| Location 3 | Study Area |
| Project Only | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 7.10653E-11 | 4.88465E-08 | 3.60831E-09 | 4.7411E-07 | 8.58138E-10 | 0 | 1.42226E-09 | 4.61378E-12 | 1.40128E-08 | 1.68368E-09 | 3.657E-09 | 2.53432E-08 | 8.37304E-09 | 6.09728E-12 | 7.04928E-11 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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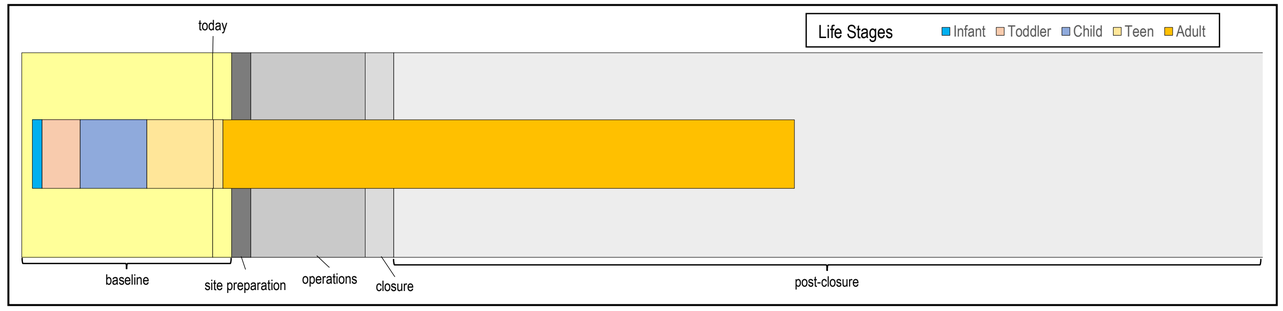


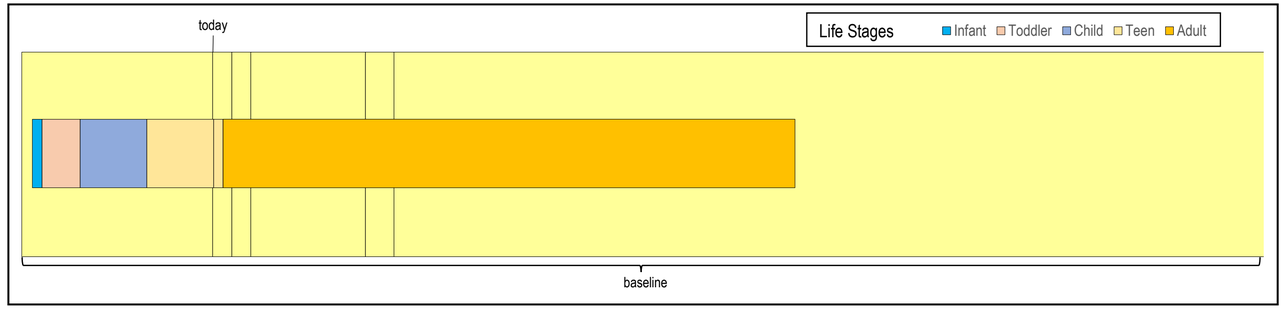

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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000136164** | 4.88701E-08 | **3.94405E-06** | **9.14975E-05** | **4.06737E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Cancer_49 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.56467E-05 | 2.71501E-08 | 2.19114E-06 | 5.0832E-05 | 2.25965E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 4.88701E-08 | **3.46568E-06** | 4.78379E-07 | **9.1169E-05** | 3.28479E-07 | 0 | 4.32443E-07 | 8.52438E-07 | **4.26064E-06** | 5.11929E-07 | **1.26296E-06** | **8.44277E-06** | **2.57191E-06** | **1.12653E-06** | 2.15758E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_49 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_49 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 3 | Study Area |
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| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_49 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_49 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Cancer_49 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_49 | Model |
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| Location 2 | Secondary Study Area for Country Foods |
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| 80 | life expectancy |

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| Cancer_49 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_50 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
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| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | OffSet (years) |

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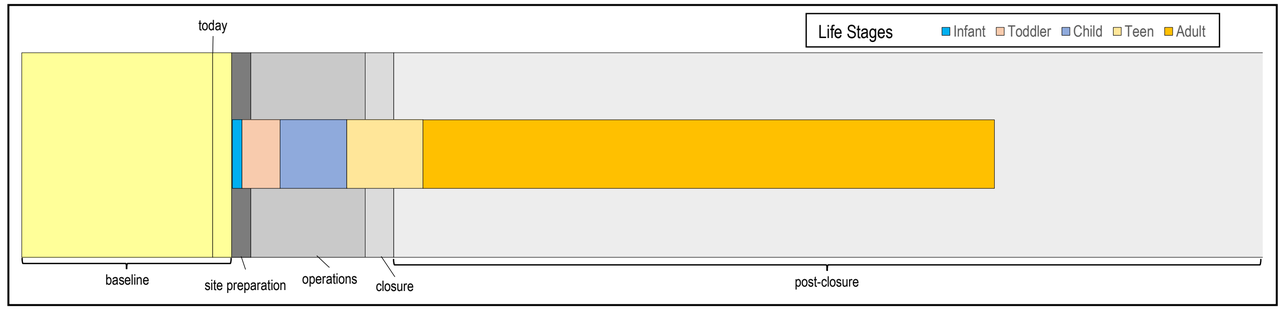


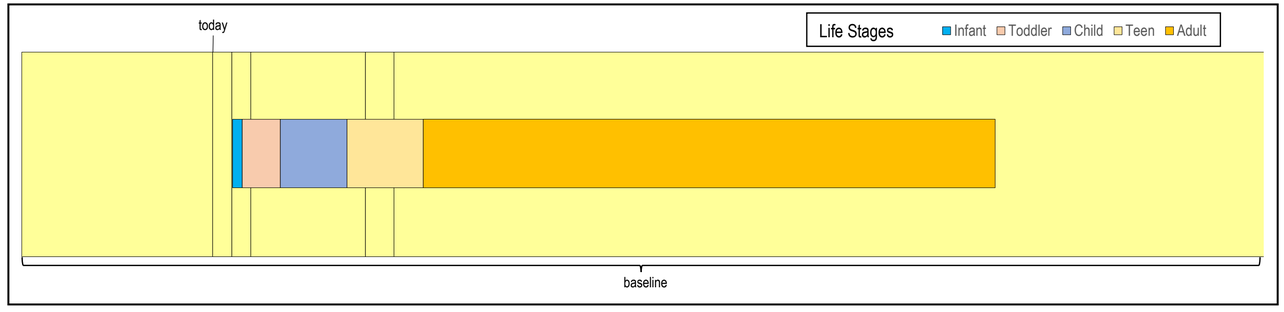

| Cancer_50 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000136428** | 6.62259E-08 | **3.94984E-06** | **9.14976E-05** | **4.09139E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_50 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.57931E-05 | 3.67922E-08 | 2.19436E-06 | 5.0832E-05 | 2.273E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 6.62259E-08 | **3.471E-06** | 4.78838E-07 | **9.11692E-05** | 3.2848E-07 | 0 | 4.32904E-07 | 8.52439E-07 | **4.26518E-06** | 5.12474E-07 | **1.2639E-06** | **8.44928E-06** | **2.57406E-06** | **1.12653E-06** | 2.15939E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| 0 | 0 | 0 | 3.89613E-07 | 7.67195E-07 | **3.83866E-06** | 4.61226E-07 | **1.13751E-06** | **7.60435E-06** | **2.31666E-06** | **1.01388E-06** | 1.94345E-08 | 0 | 0 | 0 | 0 | 1.03988E-07 | 8.31774E-08 | **1.02454E-06** | 1.23102E-07 | 2.448E-07 | **1.64809E-06** |
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| Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — |
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| | Cancer_50 | Model |
| | Location 3 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | Residential Exposure Scenario | Exposure Scenario |
| 1 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| | — | life expectancy |

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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_50 | Model |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_50 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_50 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_51 | Model Simulation |
|---|---|
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Exposure Scenario for Lead | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | OffSet (years) |

| Offset Model | |
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| Option | Years |
| 1 | -19 |
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| offset | 22 |
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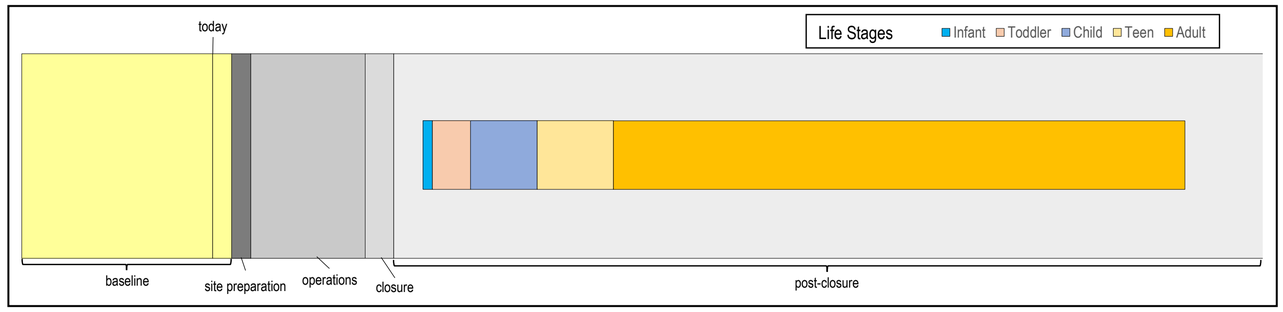


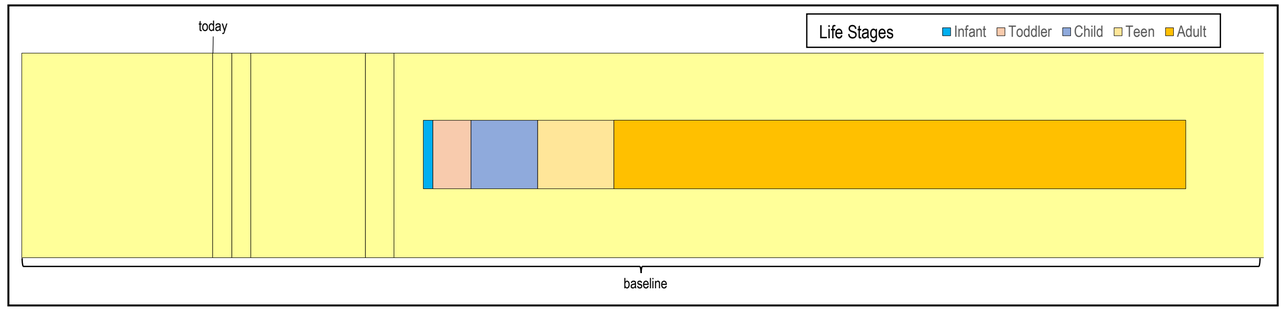

| Cancer_51 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **0.000134568** | 2.28259E-08 | **3.9514E-06** | **9.14978E-05** | **3.90965E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_51 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 7.47602E-05 | 1.26811E-08 | 2.19522E-06 | 5.08321E-05 | 2.17203E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_51 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Residential Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
| v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v |

| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 2.28259E-08 | **3.47251E-06** | 4.78891E-07 | **9.11693E-05** | 3.2848E-07 | 0 | 4.32961E-07 | 8.5244E-07 | **4.26575E-06** | 5.12542E-07 | **1.264E-06** | **8.45002E-06** | **2.57431E-06** | **1.12653E-06** | 2.15959E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| | Location 3 | Study Area |
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| | Residential Exposure Scenario | Exposure Scenario |
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| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
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| Cancer_51 | Model |
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| Residential Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
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| Location 1 | Tertiary Study Area for Country Foods |
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| Location 2 | Secondary Study Area for Country Foods |
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| Cancer_52 | Model Simulation |
| Location 3 | Study Area |
| Project | Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | OffSet (years) |

Cancer_52
Location 3
Project
Post-closure
—
Visitor/Harvestor Exposure Scenario
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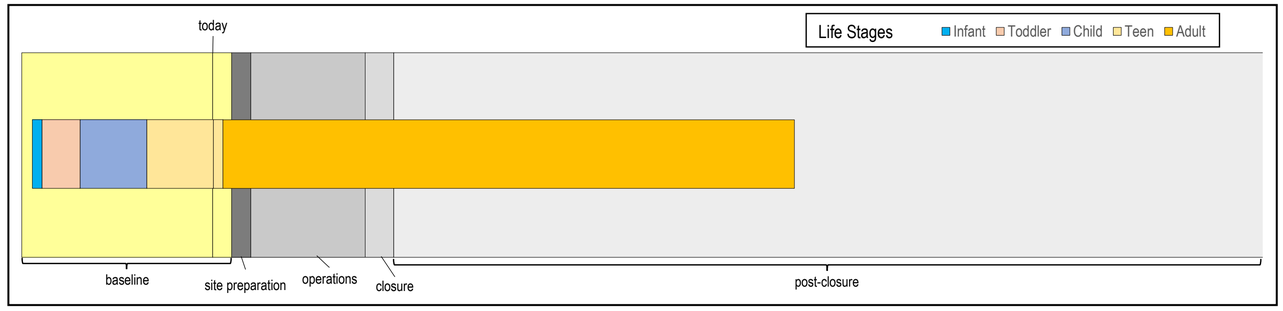


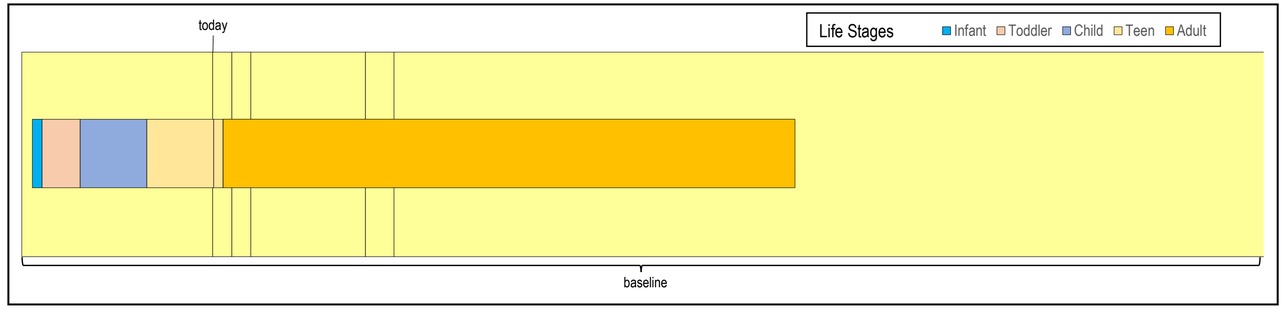

| Cancer_52 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.45052E-05** | 1.22175E-08 | 9.86014E-07 | **2.28333E-05** | **4.06737E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
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| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_52 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| -19 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.58362E-05 | 6.78752E-09 | 5.47785E-07 | 1.26852E-05 | 2.25965E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.22175E-08 | 8.66419E-07 | 1.19595E-07 | **2.27923E-05** | 4.10599E-08 | 0 | 4.32443E-07 | 8.52438E-07 | **4.26064E-06** | 5.11929E-07 | **1.26296E-06** | **8.44277E-06** | **2.57191E-06** | **1.12653E-06** | 2.15758E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| Location 2 | Secondary Study Area for Country Foods |
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| Project | Scenario |
| Operations | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 12 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_52 | Model |
| Location 3 | Study Area |
| Project | Scenario |
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| Adult | Receptor |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Cancer_52 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 42 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model Simulation | Cancer_53 |
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| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 2 | OffSet (years) | 2 |

| Offset Model | |
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| Option | Years |
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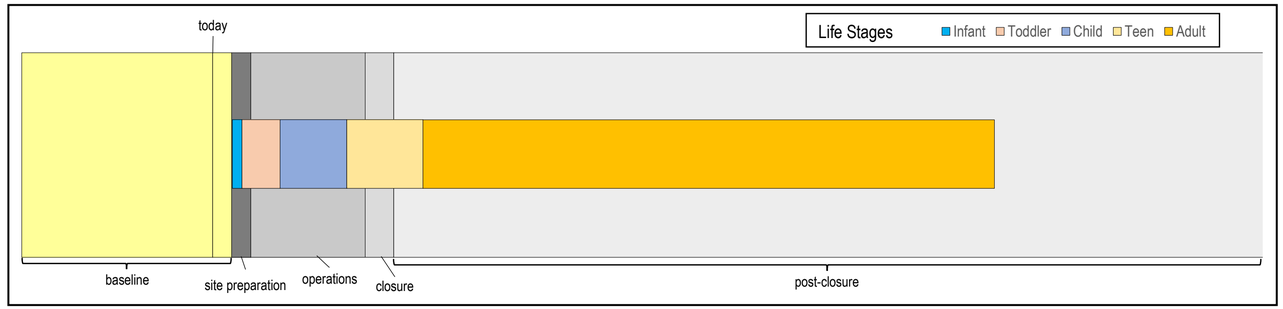


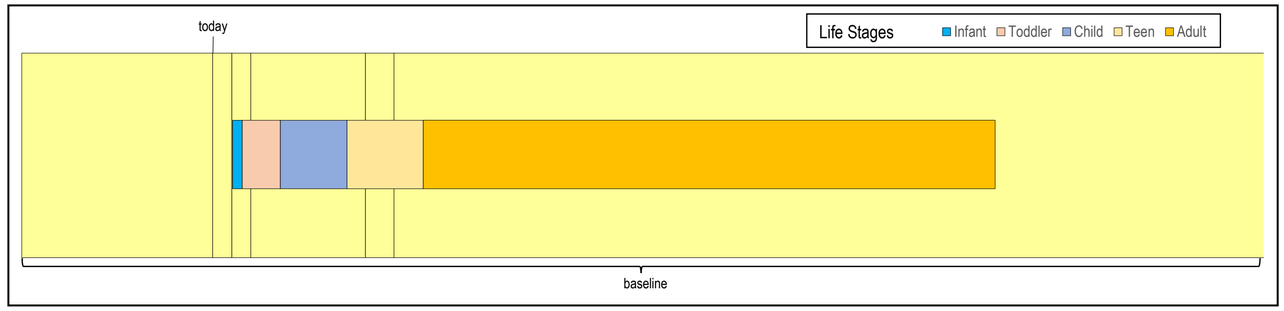

| Cancer_53 | Model |
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| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.47513E-05** | 1.65565E-08 | 9.87461E-07 | **2.28334E-05** | **4.09139E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Location 3 | Study Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.59729E-05 | 9.19805E-09 | 5.48589E-07 | 1.26852E-05 | 2.273E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 1.65565E-08 | 8.67751E-07 | 1.1971E-07 | **2.27923E-05** | 4.106E-08 | 0 | 4.32904E-07 | 8.52439E-07 | **4.26518E-06** | 5.12474E-07 | **1.2639E-06** | **8.44928E-06** | **2.57406E-06** | **1.12653E-06** | 2.15939E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| | Cancer_53 | Model |
| | Location 3 | Study Area |
| | Project | Scenario |
| No | — | Project Phase |
| No | — | Receptor |
| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
| no | — | Years Exposed for this page |
| | — | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Baseline | Project Phase |
| Infant | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Site Preparation and Construction | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 1 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Toddler | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 7 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Operations | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 2 | Years Exposed for this page |
| 80 | life expectancy |

| | ref_HH Concentration Media | ref_HH Concentration Media | ref_HH Concentration Media

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 3 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 60 | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Cancer_53 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| Adult | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| — | Years Exposed for this page |
| 80 | life expectancy |

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| Cancer_54 | Model Simulation | Cancer_54 |
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| Location 3 | Study Area | Location 3 |
| Project | Scenario | Project |
| — | Project Phase | Post-closure |
| — | Receptor | — |
| Exposure Scenario for Lead | Exposure Scenario | Visitor/Harvestor Exposure Scenario |
| Indigenous | Exposure Group | Indigenous |
| Location 2 | Secondary Study Area for Country Foods | Location 2 |
| 45% | Fraction of Country foods from Secondary Area | 0.45 |
| Location 1 | Tertiary Study Area for Country Foods | Location 1 |
| 5% | Fraction of Country foods from Tertiary Area | 0.05 |
| 22 | OffSet (years) | 3 |

| Offset Model | |
|---|---|
| Option | Years |
| 1 | -19 |
| 2 | +2 |
| 3 | +22 |

| offset | 22 |
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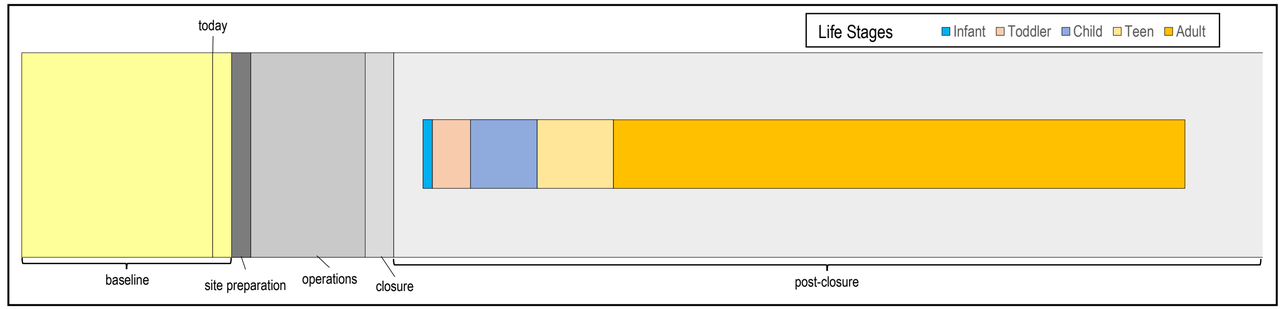


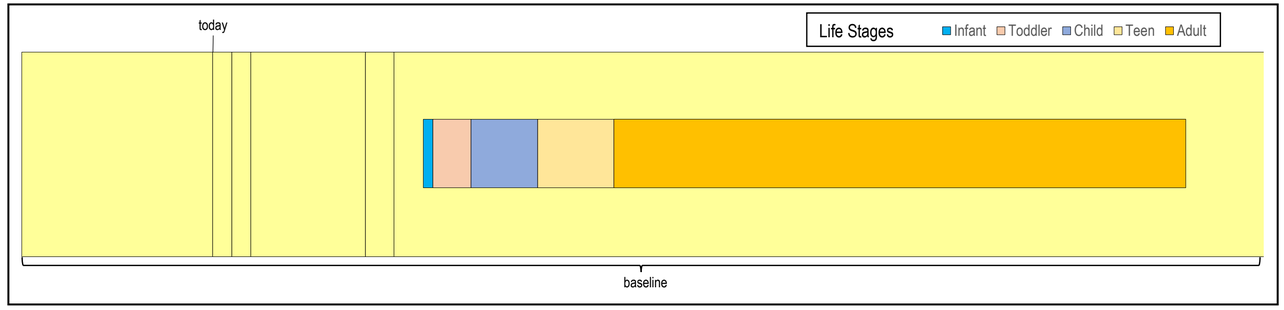

| Cancer_54 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Cancer Risks | Cancer Risk via Air Inhalation | Cancer Risk via Soil Contact | Cancer Risk via Water Contact | Cancer Risk via Country Food Ingestion |
|---|---|---|---|---|---|---|---|
| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | **6.29234E-05** | 5.70648E-09 | 9.87851E-07 | **2.28334E-05** | **3.90965E-05** |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_54 | Model |
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| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
| 22 | Offset (years) |
| 80 | Life Expectancy (years) |

| Parameter and Symbol | Parameter | Symbol | Sum of the Lifetime Average Daily Dose (mg/kg/d) | Lifetime Average Daily Dose via Air Inhalation (mg/kg/d) | Lifetime Average Daily Dose via Soil Contact (mg/kg/d) | Lifetime Average Daily Dose via Water Contact (mg/kg/d) | Lifetime Average Daily Dose via Country Food Ingestion (mg/kg/d) |
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| Aluminum (Al) | Aluminum | Al | — | — | — | — | — |
| Antimony (Sb) | Antimony | Sb | — | — | — | — | — |
| Arsenic (As) | Arsenic | As | 3.49574E-05 | 3.17027E-09 | 5.48806E-07 | 1.26852E-05 | 2.17203E-05 |
| Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — |
| Cobalt (Co) | Cobalt | Co | — | — | — | — | — |
| Copper (Cu) | Copper | Cu | — | — | — | — | — |
| Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — |
| Lead (Pb) | Lead | Pb | — | — | — | — | — |
| Mercury (Hg) | Mercury | Hg | — | — | — | — | — |
| Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — |
| Silver (Ag) | Silver | Ag | — | — | — | — | — |
| Thallium (Tl) | Thallium | Tl | — | — | — | — | — |
| Uranium (U) | Uranium | U | — | — | — | — | — |
| Zinc (Zn) | Zinc | Zn | — | — | — | — | — |
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| Cancer_54 | Model |
| Location 3 | Study Area |
| Project | Scenario |
| — | Project Phase |
| — | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| — | life expectancy |

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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| Carcinogen? (Yes/No) | Parameter and Symbol | Parameter | Symbol | Cancer Risk via Air Inhalation | Cancer Risk via Soil Ingestion | Cancer Risk via Soil Dermal Exposure (mg/kg) | Cancer Risk via Water Ingestion | Cancer Risk via Water Dermal Exposure | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — |
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| No | Aluminum (Al) | Aluminum | Al | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Antimony (Sb) | Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Yes | Arsenic (As) | Arsenic | As | 5.70648E-09 | 8.68128E-07 | 1.19723E-07 | **2.27923E-05** | 4.106E-08 | 0 | 4.32961E-07 | 8.5244E-07 | **4.26575E-06** | 5.12542E-07 | **1.264E-06** | **8.45002E-06** | **2.57431E-06** | **1.12653E-06** | 2.15959E-08 | 0 |
| No | Cadmium (Cd) | Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cobalt (Co) | Cobalt | Co | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Copper (Cu) | Copper | Cu | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Cyanide (CN-) | Cyanide | CN- | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Lead (Pb) | Lead | Pb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Mercury (Hg) | Mercury | Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Methyl-Mercury (Me-Hg) | Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Silver (Ag) | Silver | Ag | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Thallium (Tl) | Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Uranium (U) | Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| No | Zinc (Zn) | Zinc | Zn | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF | OSF |
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| — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck | Cancer Risk Ruffed Grouse | Cancer Risk Generic Fish | Cancer Risk Snowshoe Hare | — | — | — | Cancer Risk Forage | Cancer Risk Berries | Cancer Risk Macrophytes | Cancer Risk Labrador Tea | Cancer Risk Root Vegetable | Cancer Risk Moose | Cancer Risk Mallard Duck |
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| | VisitorHarvestor Exposure Scenario | Exposure Scenario |
| 3 | Indigenous | Exposure Group |
| | Location 2 | Secondary Study Area for Country Foods |
| | 45% | Fraction of Country foods from Secondary Area |
| | Location 1 | Tertiary Study Area for Country Foods |
| | 5% | Fraction of Country foods from Tertiary Area |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Post-closure | Project Phase |
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| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Project | Scenario |
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| Location 3 | Study Area |
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| Post-closure | Project Phase |
| Child | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
| 5% | Fraction of Country foods from Tertiary Area |
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| Location 3 | Study Area |
| Project | Scenario |
| Post-closure | Project Phase |
| Teen | Receptor |
| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
| Indigenous | Exposure Group |
| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
| Location 1 | Tertiary Study Area for Country Foods |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Location 2 | Secondary Study Area for Country Foods |
| 45% | Fraction of Country foods from Secondary Area |
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| Project | Scenario |
| — | Project Phase |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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| Visitor/Harvestor Exposure Scenario | Exposure Scenario |
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# Appendix V

# Model Outputs (ERA)

# (to be provided electronically once final)

# APPENDIX VI-Ecological Risk Assessment Outputs

Appendix VI to the HHERA contains all of the Goliath Gold Project HHERA Model Outputs for the Ecological Risk Assessment (ERA). The following data tables are included in Appendix VI:

| Appendix VI: ERA Outputs<br>Table Number and Description |
|---|
| Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole |
| Table VI-1B Estimated Ecological Risk: Meadow Vole |
| Table VI-2A Estimated Ecological Exposure Dose: Moose |
| Table VI-2B Estimated Ecological Risk: Moose |
| Table VI-3A Estimated Ecological Exposure Dose: Common Shrew |
| Table VI-3B Estimated Ecological Risk: Common Shrew |
| Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis |
| Table VI-4B Estimated Ecological Risk: Little Brown Myotis |
| Table VI-5A Estimated Ecological Exposure Dose: Red Fox |
| Table VI-5B Estimated Ecological Risk: Red Fox |
| Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse |
| Table VI-6B Estimated Ecological Risk: Deer Mouse |
| Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel |
| Table VI-7B Estimated Ecological Risk: Short Tailed Weasel |
| Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse |
| Table VI-8B Estimated Ecological Risk: Ruffed Grouse |
| Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck |
| Table VI-9B Estimated Ecological Risk: Mallard Duck |
| Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow |

| Appendix VI: ERA Outputs<br>Table Number and Description |
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| Table VI-10B Estimated Ecological Risk: Barn Swallow |
| Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk |
| Table VI-11B Estimated Ecological Risk: Red-Tailed Hawk |
| Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle |
| Table VI-12B Estimated Ecological Risk: Bald Eagle |
| Table VI-13A Estimated Ecological Exposure Dose: American Robin |
| Table VI-13B Estimated Ecological Risk: American Robin |
| Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare |
| Table VI-14B Estimated Ecological Risk: Snowshoe Hare |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
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| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) |
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| Aluminum | Al | 0.145490458 | — | — | — | — | — | 0.145490458 | — | 135.8300524 | 93.47342907 | 14.7119863 | — | — | — | — | 27.64463706 | 135.8718424 | 93.47342907 | 14.7119863 | — |
| Antimony | Sb | 0.001993787 | 0.00056805 | 7.31509E-05 | — | — | — | 0.000512586 | 0.00084 | 0.013907839 | 0.005333745 | 0.000686855 | — | — | — | — | 0.007887239 | 0.014327839 | 0.005333745 | 0.000686855 | — |
| Arsenic | As | 0.007282213 | 0.00068784 | 0.000300724 | — | — | — | 0.000642882 | 0.005650767 | 0.038424661 | 0.003980824 | 0.001740418 | — | — | — | — | 0.032703419 | 0.042204661 | 0.003980824 | 0.001740418 | — |
| Cadmium | Cd | 0.001029313 | 0.000265291 | 0.000121468 | — | — | — | 1.48785E-05 | 0.000627675 | 0.003003844 | 0.000785554 | 0.00035968 | — | — | — | — | 0.001858611 | 0.003423844 | 0.000785554 | 0.00035968 | — |
| Cobalt | Co | 0.021137548 | 0.001289867 | 0.000369118 | — | — | — | 0.000404736 | 0.019073826 | 0.218781572 | 0.013611238 | 0.003895095 | — | — | — | — | 0.201275239 | 0.219621572 | 0.013611238 | 0.003895095 | — |
| Copper | Cu | 0.126175564 | 0.055963528 | 0.028026159 | — | — | — | 0.000808037 | 0.04137784 | 0.200124397 | 0.089334676 | 0.044738206 | — | — | — | — | 0.066051516 | 0.203904397 | 0.089334676 | 0.044738206 | — |
| Cyanide | CN- | 0.000760561 | — | — | — | — | — | 0.000760561 | — | — | — | — | — | — | — | — | — | 0.21 | — | — | — |
| Lead | Pb | 0.018731553 | 0.002383804 | 8.3376E-05 | — | — | — | 0.000597559 | 0.015666814 | 0.281445555 | 0.036997418 | 0.001294023 | — | — | — | — | 0.243154114 | 0.298665555 | 0.036997418 | 0.001294023 | — |
| Mercury | Hg | 0.000334225 | 0.000222851 | 3.5075E-05 | — | — | — | 1.03911E-05 | 6.59078E-05 | 0.00226793 | 0.001560709 | 0.000245643 | — | — | — | — | 0.000461578 | 0.00264593 | 0.001560709 | 0.000245643 | — |
| Methyl-Mercury | Me-Hg | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | — | — | — | — | — | — | — | — | 0.000378 | — | — | — |
| Silver | Ag | 0.000362525 | 1.19989E-07 | 0.000104918 | — | — | — | 6.03396E-05 | 0.000197147 | 0.003282506 | 1.30338E-06 | 0.00113968 | — | — | — | — | 0.002141522 | 0.003293006 | 1.30338E-06 | 0.00113968 | — |
| Thallium | Tl | 0.000633336 | 5.6805E-06 | 2.64156E-05 | — | — | — | 0.00018124 | 0.00042 | 0.000539814 | 6.78266E-06 | 3.15409E-05 | — | — | — | — | 0.000501491 | 0.135359814 | 6.78266E-06 | 3.15409E-05 | — |
| Uranium | U | 0.003811283 | 0.000056805 | 5.28312E-06 | — | — | — | 0.002909195 | 0.00084 | 0.001691021 | 0.000106485 | 9.90354E-06 | — | — | — | — | 0.001574633 | 0.002741021 | 0.000106485 | 9.90354E-06 | — |
| Zinc | Zn | 0.271913733 | 0.095582016 | 0.060175445 | — | — | — | 0.003083276 | 0.113072995 | 1.773032841 | 0.630397521 | 0.396878548 | — | — | — | — | 0.745756772 | 1.781432841 | 0.630397521 | 0.396878548 | — |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | 0.04179 | 27.64463706 | 135.8300524 | 93.47342907 | 14.7119863 | — | — | — | — | 27.64463706 | 1.113776961 | 0.755623247 | 0.118929186 | — | — | — | 0.01575 | 0.223474528 |
| Antimony | Sb | — | — | 0.00042 | 0.007887239 | 0.013907839 | 0.005333745 | 0.000686855 | — | — | — | — | 0.007887239 | 0.000429344 | 7.00722E-05 | 9.02357E-06 | — | — | — | 0.000246629 | 0.000103619 |
| Arsenic | As | — | — | 0.00378 | 0.032703419 | 0.038424661 | 0.003980824 | 0.001740418 | — | — | — | — | 0.032703419 | 0.000775318 | 4.39291E-05 | 1.92058E-05 | — | — | — | 0.000351295 | 0.000360888 |
| Cadmium | Cd | — | — | 0.00042 | 0.001858611 | 0.003003844 | 0.000785554 | 0.00035968 | — | — | — | — | 0.001858611 | 8.42488E-05 | 1.10487E-05 | 5.05886E-06 | — | — | — | 0.000042 | 2.61412E-05 |
| Cobalt | Co | — | — | 0.00084 | 0.201275239 | 0.218781572 | 0.013611238 | 0.003895095 | — | — | — | — | 0.201275239 | 0.001975922 | 0.000111171 | 3.18136E-05 | — | — | — | 0.000189 | 0.001643937 |
| Copper | Cu | — | — | 0.00378 | 0.066051516 | 0.200124397 | 0.089334676 | 0.044738206 | — | — | — | — | 0.066051516 | 0.003378455 | 0.001039413 | 0.000520531 | — | — | — | 0.00105 | 0.000768512 |
| Cyanide | CN- | — | — | 0.21 | — | — | — | — | — | — | — | — | — | 0.00105 | — | — | — | — | — | 0.00105 | — |
| Lead | Pb | — | — | 0.01722 | 0.243154114 | 0.281445555 | 0.036997418 | 0.001294023 | — | — | — | — | 0.243154114 | 0.005087406 | 0.000530737 | 1.85631E-05 | — | — | — | 0.00105 | 0.003488106 |
| Mercury | Hg | — | — | 0.000378 | 0.000461578 | 0.00226793 | 0.001560709 | 0.000245643 | — | — | — | — | 0.000461578 | 6.04281E-05 | 1.26816E-05 | 1.99598E-06 | — | — | — | 0.000042 | 3.75056E-06 |
| Methyl-Mercury | Me-Hg | — | — | 0.000378 | — | — | — | — | — | — | — | — | — | 0.000042 | — | — | — | — | — | 0.000042 | — |
| Silver | Ag | — | — | 0.0000105 | 0.002141522 | 0.003282506 | 1.30338E-06 | 0.00113968 | — | — | — | — | 0.002141522 | 8.61407E-05 | 2.59734E-08 | 2.27111E-05 | — | — | — | 2.07282E-05 | 4.26755E-05 |
| Thallium | Tl | — | — | 0.13482 | 0.000501491 | 0.000539814 | 6.78266E-06 | 3.15409E-05 | — | — | — | — | 0.000501491 | 8.28323E-05 | 2.49189E-07 | 1.15879E-06 | — | — | — | 0.000063 | 1.84243E-05 |
| Uranium | U | — | — | 0.00105 | 0.001574633 | 0.001691021 | 0.000106485 | 9.90354E-06 | — | — | — | — | 0.001574633 | 0.001076263 | 1.6538E-06 | 1.53811E-07 | — | — | — | 0.00105 | 2.44554E-05 |
| Zinc | Zn | — | — | 0.0084 | 0.745756772 | 1.773032841 | 0.630397521 | 0.396878548 | — | — | — | — | 0.745756772 | 0.028222853 | 0.007794617 | 0.004907247 | — | — | — | 0.0063 | 0.009220989 |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 135.9755429 | 93.47342907 | 14.7119863 | — | — | — | 0.145490458 | 27.64463706 | 135.8718424 | 93.47342907 | 14.7119863 | — | — | — | 0.04179 | 27.64463706 | 135.9755429 | 93.47342907 | 14.7119863 | — |
| Antimony | Sb | 0.014420426 | 0.005333745 | 0.000686855 | — | — | — | 0.000512586 | 0.007887239 | 0.014327839 | 0.005333745 | 0.000686855 | — | — | — | 0.00042 | 0.007887239 | 0.014420426 | 0.005333745 | 0.000686855 | — |
| Arsenic | As | 0.039067542 | 0.003980824 | 0.001740418 | — | — | — | 0.000642882 | 0.032703419 | 0.042204661 | 0.003980824 | 0.001740418 | — | — | — | 0.00378 | 0.032703419 | 0.039067542 | 0.003980824 | 0.001740418 | — |
| Cadmium | Cd | 0.003018723 | 0.000785554 | 0.00035968 | — | — | — | 1.48785E-05 | 0.001858611 | 0.003423844 | 0.000785554 | 0.00035968 | — | — | — | 0.00042 | 0.001858611 | 0.003018723 | 0.000785554 | 0.00035968 | — |
| Cobalt | Co | 0.219186308 | 0.013611238 | 0.003895095 | — | — | — | 0.000404736 | 0.201275239 | 0.219621572 | 0.013611238 | 0.003895095 | — | — | — | 0.00084 | 0.201275239 | 0.219186308 | 0.013611238 | 0.003895095 | — |
| Copper | Cu | 0.200932435 | 0.089334676 | 0.044738206 | — | — | — | 0.000808037 | 0.066051516 | 0.203904397 | 0.089334676 | 0.044738206 | — | — | — | 0.00378 | 0.066051516 | 0.200932435 | 0.089334676 | 0.044738206 | — |
| Cyanide | CN- | 0.000760561 | — | — | — | — | — | 0.000760561 | — | 0.21 | — | — | — | — | — | 0.21 | — | 0.000760561 | — | — | — |
| Lead | Pb | 0.282043114 | 0.036997418 | 0.001294023 | — | — | — | 0.000597559 | 0.243154114 | 0.298665555 | 0.036997418 | 0.001294023 | — | — | — | 0.01722 | 0.243154114 | 0.282043114 | 0.036997418 | 0.001294023 | — |
| Mercury | Hg | 0.002278321 | 0.001560709 | 0.000245643 | — | — | — | 1.03911E-05 | 0.000461578 | 0.00264593 | 0.001560709 | 0.000245643 | — | — | — | 0.000378 | 0.000461578 | 0.002278321 | 0.001560709 | 0.000245643 | — |
| Methyl-Mercury | Me-Hg | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | 0.000378 | — | — | — | — | — | 0.000378 | — | 1.03911E-05 | — | — | — |
| Silver | Ag | 0.003342845 | 1.30338E-06 | 0.00113968 | — | — | — | 6.03396E-05 | 0.002141522 | 0.003293006 | 1.30338E-06 | 0.00113968 | — | — | — | 0.0000105 | 0.002141522 | 0.003342845 | 1.30338E-06 | 0.00113968 | — |
| Thallium | Tl | 0.000721054 | 6.78266E-06 | 3.15409E-05 | — | — | — | 0.00018124 | 0.000501491 | 0.135359814 | 6.78266E-06 | 3.15409E-05 | — | — | — | 0.13482 | 0.000501491 | 0.000721054 | 6.78266E-06 | 3.15409E-05 | — |
| Uranium | U | 0.004600217 | 0.000106485 | 9.90354E-06 | — | — | — | 0.002909195 | 0.001574633 | 0.002741021 | 0.000106485 | 9.90354E-06 | — | — | — | 0.00105 | 0.001574633 | 0.004600217 | 0.000106485 | 9.90354E-06 | — |
| Zinc | Zn | 1.776116118 | 0.630397521 | 0.396878548 | — | — | — | 0.003083276 | 0.745756772 | 1.781432841 | 0.630397521 | 0.396878548 | — | — | — | 0.0084 | 0.745756772 | 1.776116118 | 0.630397521 | 0.396878548 | — |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base |
| Phase | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline |
| Media | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | 0.145490458 | 27.64463706 | 1.113776961 | 0.755623247 | 0.118929186 | — | — | — | 0.01575 | 0.223474528 | 0.145490458 | — | — | — | — | — | 0.145490458 | — |
| Antimony | Sb | — | — | 0.000512586 | 0.007887239 | 0.001910545 | 0.000638122 | 8.21744E-05 | — | — | — | 0.000246629 | 0.000943619 | 0.001993787 | 0.00056805 | 7.31509E-05 | — | — | — | 0.000512586 | 0.00084 |
| Arsenic | As | — | — | 0.000642882 | 0.032703419 | 0.007414649 | 0.000731769 | 0.00031993 | — | — | — | 0.000351295 | 0.006011655 | 0.007282213 | 0.00068784 | 0.000300724 | — | — | — | 0.000642882 | 0.005650767 |
| Cadmium | Cd | — | — | 1.48785E-05 | 0.001858611 | 0.001098683 | 0.00027634 | 0.000126527 | — | — | — | 0.000042 | 0.000653816 | 0.001029313 | 0.000265291 | 0.000121468 | — | — | — | 1.48785E-05 | 0.000627675 |
| Cobalt | Co | — | — | 0.000404736 | 0.201275239 | 0.022708734 | 0.001401039 | 0.000400932 | — | — | — | 0.000189 | 0.020717763 | 0.021137548 | 0.001289867 | 0.000369118 | — | — | — | 0.000404736 | 0.019073826 |
| Copper | Cu | — | — | 0.000808037 | 0.066051516 | 0.128745982 | 0.05700294 | 0.02854669 | — | — | — | 0.00105 | 0.042146352 | 0.126175564 | 0.055963528 | 0.028026159 | — | — | — | 0.000808037 | 0.04137784 |
| Cyanide | CN- | — | — | 0.000760561 | — | 0.00105 | — | — | — | — | — | 0.00105 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — |
| Lead | Pb | — | — | 0.000597559 | 0.243154114 | 0.0232214 | 0.002914541 | 0.000101939 | — | — | — | 0.00105 | 0.01915492 | 0.018731553 | 0.002383804 | 8.3376E-05 | — | — | — | 0.000597559 | 0.015666814 |
| Mercury | Hg | — | — | 1.03911E-05 | 0.000461578 | 0.000384262 | 0.000235532 | 3.70709E-05 | — | — | — | 0.000042 | 6.96584E-05 | 0.000334225 | 0.000222851 | 3.5075E-05 | — | — | — | 1.03911E-05 | 6.59078E-05 |
| Methyl-Mercury | Me-Hg | — | — | 1.03911E-05 | — | 0.000042 | — | — | — | — | — | 0.000042 | — | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — |
| Silver | Ag | — | — | 6.03396E-05 | 0.002141522 | 0.000388326 | 1.45962E-07 | 0.000127629 | — | — | — | 2.07282E-05 | 0.000239823 | 0.000362525 | 1.19989E-07 | 0.000104918 | — | — | — | 6.03396E-05 | 0.000197147 |
| Thallium | Tl | — | — | 0.00018124 | 0.000501491 | 0.000534928 | 5.92969E-06 | 2.75744E-05 | — | — | — | 0.000063 | 0.000438424 | 0.000633336 | 5.6805E-06 | 2.64156E-05 | — | — | — | 0.00018124 | 0.00042 |
| Uranium | U | — | — | 0.002909195 | 0.001574633 | 0.001978351 | 5.84588E-05 | 5.43693E-06 | — | — | — | 0.00105 | 0.000864455 | 0.003811283 | 0.000056805 | 5.28312E-06 | — | — | — | 0.002909195 | 0.00084 |
| Zinc | Zn | — | — | 0.003083276 | 0.745756772 | 0.29705331 | 0.103376633 | 0.065082693 | — | — | — | 0.0063 | 0.122293984 | 0.271913733 | 0.095582016 | 0.060175445 | — | — | — | 0.003083276 | 0.113072995 |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.006154925 | 0.004235601 | 0.00066665 | — | — | — | — | 0.001252673 | 0.049511016 | 0.034071727 | 0.005362623 | — | — | — | — | 0.010076666 | 0.055679433 | 0.038316613 | 0.006030735 | — |
| Antimony | Sb | 6.39065E-07 | 2.45085E-07 | 3.1561E-08 | — | — | — | — | 3.62418E-07 | 0.00129813 | 3.40184E-06 | 4.38073E-07 | — | — | — | 0.00128926 | 5.03045E-06 | 9.5109E-06 | 3.64749E-06 | 4.69707E-07 | — |
| Arsenic | As | 1.78084E-06 | 1.84496E-07 | 8.06617E-08 | — | — | — | — | 1.51568E-06 | 0.005259169 | 2.08203E-06 | 9.10265E-07 | — | — | — | 0.005239072 | 1.71044E-05 | 2.18818E-05 | 2.26697E-06 | 9.9112E-07 | — |
| Cadmium | Cd | 1.42178E-07 | 3.71817E-08 | 1.70243E-08 | — | — | — | — | 8.79716E-08 | 2.15075E-05 | 5.38776E-07 | 2.46689E-07 | — | — | — | 1.94473E-05 | 1.27474E-06 | 2.20275E-06 | 5.76054E-07 | 2.63757E-07 | — |
| Cobalt | Co | 1.00377E-05 | 6.24481E-07 | 1.78706E-07 | — | — | — | — | 9.23447E-06 | 8.05377E-05 | 5.01056E-06 | 1.43386E-06 | — | — | — | — | 7.40933E-05 | 9.05985E-05 | 5.63648E-06 | 1.61298E-06 | — |
| Copper | Cu | 9.81763E-06 | 4.38255E-06 | 2.19475E-06 | — | — | — | — | 3.24033E-06 | 0.000830354 | 4.92323E-05 | 2.46552E-05 | — | — | — | 0.000720066 | 3.6401E-05 | 0.000120134 | 5.36275E-05 | 2.68563E-05 | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.00067881 | — | — | — | — | — | 0.00067881 | — | — | — | — | — |
| Lead | Pb | 1.28616E-05 | 1.69073E-06 | 5.9135E-08 | — | — | — | — | 1.11118E-05 | 0.000833366 | 2.60378E-05 | 9.10698E-07 | — | — | — | 0.000635293 | 0.000171125 | 0.000210965 | 2.77323E-05 | 9.69968E-07 | — |
| Mercury | Hg | 1.04703E-07 | 7.2053E-08 | 1.13406E-08 | — | — | — | — | 2.13096E-08 | 8.28612E-07 | 5.70222E-07 | 8.97484E-08 | — | — | — | — | 1.68642E-07 | 9.33562E-07 | 6.42445E-07 | 1.01116E-07 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 1.50548E-07 | 5.9778E-11 | 5.22699E-08 | — | — | — | — | 9.8218E-08 | 3.30398E-06 | 1.31191E-09 | 1.14713E-06 | — | — | — | — | 2.15553E-06 | 3.45487E-06 | 1.37182E-09 | 1.19952E-06 | — |
| Thallium | Tl | 2.7163E-08 | 3.41298E-10 | 1.58711E-09 | — | — | — | — | 2.52346E-08 | 1.03201E-06 | 1.29671E-08 | 6.02997E-08 | — | — | — | — | 9.58748E-07 | 1.05926E-06 | 1.33094E-08 | 6.18918E-08 | — |
| Uranium | U | 8.20177E-08 | 5.1647E-09 | 4.8034E-10 | — | — | — | — | 7.63726E-08 | 1.2911E-06 | 8.13014E-08 | 7.56139E-09 | — | — | — | — | 1.20224E-06 | 1.37335E-06 | 8.64804E-08 | 8.04307E-09 | — |
| Zinc | Zn | 8.1949E-05 | 2.91368E-05 | 1.83436E-05 | — | — | — | — | 3.44686E-05 | 0.00418958 | 0.000375334 | 0.000236299 | — | — | — | 0.00313393 | 0.000444018 | 0.001137794 | 0.00040454 | 0.000254686 | — |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.011332085 | 0.201132624 | 0.038316613 | 0.006030735 | — | — | — | 0.145453191 | 0.011332085 | 0.151645382 | 0.004235601 | 0.00066665 | — | — | — | 0.145490458 | 0.001252673 |
| Antimony | Sb | — | — | — | 5.3937E-06 | 0.000522097 | 3.64749E-06 | 4.69707E-07 | — | — | — | 0.000512586 | 5.3937E-06 | 0.001994426 | 0.000568295 | 7.31824E-05 | — | — | — | 0.000512586 | 0.000840362 |
| Arsenic | As | — | — | — | 1.86237E-05 | 0.000664763 | 2.26697E-06 | 9.9112E-07 | — | — | — | 0.000642882 | 1.86237E-05 | 0.007283994 | 0.000688024 | 0.000300805 | — | — | — | 0.000642882 | 0.005652283 |
| Cadmium | Cd | — | — | — | 1.36294E-06 | 3.16511E-05 | 5.76054E-07 | 2.63757E-07 | — | — | — | 2.94483E-05 | 1.36294E-06 | 0.001029455 | 0.000265328 | 0.000121485 | — | — | — | 1.48785E-05 | 0.000627763 |
| Cobalt | Co | — | — | — | 8.33491E-05 | 0.000443131 | 5.63648E-06 | 1.61298E-06 | — | — | — | 0.000352532 | 8.33491E-05 | 0.021147586 | 0.001290492 | 0.000369297 | — | — | — | 0.000404736 | 0.01908306 |
| Copper | Cu | — | — | — | 3.96506E-05 | 0.000964269 | 5.36275E-05 | 2.68563E-05 | — | — | — | 0.000844134 | 3.96506E-05 | 0.126185381 | 0.05596791 | 0.028028354 | — | — | — | 0.000808037 | 0.04138108 |
| Cyanide | CN- | — | — | — | — | 0.000760535 | — | — | — | — | — | 0.000760535 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — |
| Lead | Pb | — | — | — | 0.000182262 | 0.000971715 | 2.77323E-05 | 9.69968E-07 | — | — | — | 0.000760751 | 0.000182262 | 0.018744415 | 0.002385494 | 8.34351E-05 | — | — | — | 0.000597559 | 0.015677926 |
| Mercury | Hg | — | — | — | 1.90002E-07 | 9.99754E-06 | 6.42445E-07 | 1.01116E-07 | — | — | — | 9.06397E-06 | 1.90002E-07 | 0.000334329 | 0.000222923 | 3.50863E-05 | — | — | — | 1.03911E-05 | 6.59291E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 9.06397E-06 | — | — | — | — | — | 9.06397E-06 | — | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — |
| Silver | Ag | — | — | — | 2.25397E-06 | 6.37944E-05 | 1.37182E-09 | 1.19952E-06 | — | — | — | 6.03396E-05 | 2.25397E-06 | 0.000362676 | 1.20049E-07 | 0.000104971 | — | — | — | 6.03396E-05 | 0.000197246 |
| Thallium | Tl | — | — | — | 9.8406E-07 | 0.000182299 | 1.33094E-08 | 6.18918E-08 | — | — | — | 0.00018124 | 9.8406E-07 | 0.000633363 | 5.68084E-06 | 2.64172E-05 | — | — | — | 0.00018124 | 0.000420025 |
| Uranium | U | — | — | — | 1.27882E-06 | 0.002910569 | 8.64804E-08 | 8.04307E-09 | — | — | — | 0.002909195 | 1.27882E-06 | 0.003811365 | 5.68102E-05 | 5.2836E-06 | — | — | — | 0.002909195 | 0.000840076 |
| Zinc | Zn | — | — | — | 0.000478568 | 0.007760301 | 0.00040454 | 0.000254686 | — | — | — | 0.006622507 | 0.000478568 | 0.271995682 | 0.095611153 | 0.060193789 | — | — | — | 0.003083276 | 0.113107463 |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.195024744 | 0.034071727 | 0.005362623 | — | — | — | 0.145513727 | 0.010076666 | 0.20116989 | 0.038316613 | 0.006030735 | — | — | — | 0.145490458 | 0.011332085 | 0.201132624 | 0.038316613 | 0.006030735 | — |
| Antimony | Sb | 0.002779331 | 0.000571452 | 7.35889E-05 | — | — | — | 0.00128926 | 0.00084503 | 0.002003298 | 0.000571697 | 7.36206E-05 | — | — | — | 0.000512586 | 0.000845394 | 0.002003298 | 0.000571697 | 7.36206E-05 | — |
| Arsenic | As | 0.0118985 | 0.000689922 | 0.000301634 | — | — | — | 0.005239072 | 0.005667872 | 0.007304094 | 0.000690107 | 0.000301715 | — | — | — | 0.000642882 | 0.005669391 | 0.007304094 | 0.000690107 | 0.000301715 | — |
| Cadmium | Cd | 0.001035942 | 0.00026583 | 0.000121715 | — | — | — | 1.94473E-05 | 0.00062895 | 0.001031516 | 0.000265867 | 0.000121732 | — | — | — | 1.48785E-05 | 0.000629038 | 0.001046085 | 0.000265867 | 0.000121732 | — |
| Cobalt | Co | 0.021193504 | 0.001294878 | 0.000370552 | — | — | — | 0.000380155 | 0.019147919 | 0.021228146 | 0.001295504 | 0.000370731 | — | — | — | 0.000404736 | 0.019157175 | 0.02118833 | 0.001295504 | 0.000370731 | — |
| Copper | Cu | 0.126285852 | 0.05601276 | 0.028050814 | — | — | — | 0.000808037 | 0.04141424 | 0.126295698 | 0.056017155 | 0.028053015 | — | — | — | 0.000808037 | 0.04141749 | 0.126331795 | 0.056017155 | 0.028053015 | — |
| Cyanide | CN- | 0.000760561 | — | — | — | — | — | 0.000760561 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — | 0.000760535 | — | — | — |
| Lead | Pb | 0.01896736 | 0.002409841 | 8.42867E-05 | — | — | — | 0.000635293 | 0.01583794 | 0.018942518 | 0.002411536 | 8.4346E-05 | — | — | — | 0.000597559 | 0.015849076 | 0.019105709 | 0.002411536 | 8.4346E-05 | — |
| Mercury | Hg | 0.000335054 | 0.000223421 | 3.51647E-05 | — | — | — | 1.03921E-05 | 6.60764E-05 | 0.000335158 | 0.000223493 | 3.51761E-05 | — | — | — | 1.03911E-05 | 6.60978E-05 | 0.000333831 | 0.000223493 | 3.51761E-05 | — |
| Methyl-Mercury | Me-Hg | 1.03921E-05 | — | — | — | — | — | 1.03921E-05 | — | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | 9.06397E-06 | — | — | — |
| Silver | Ag | 0.000365829 | 1.21301E-07 | 0.000106065 | — | — | — | 6.03396E-05 | 0.000199303 | 0.00036598 | 1.21361E-07 | 0.000106118 | — | — | — | 6.03396E-05 | 0.000199401 | 0.00036598 | 1.21361E-07 | 0.000106118 | — |
| Thallium | Tl | 0.000634368 | 5.69347E-06 | 2.64759E-05 | — | — | — | 0.00018124 | 0.000420959 | 0.000634395 | 5.69381E-06 | 2.64775E-05 | — | — | — | 0.00018124 | 0.000420984 | 0.000634395 | 5.69381E-06 | 2.64775E-05 | — |
| Uranium | U | 0.003812575 | 5.68863E-05 | 5.29068E-06 | — | — | — | 0.002909195 | 0.000841202 | 0.003812657 | 5.68915E-05 | 5.29116E-06 | — | — | — | 0.002909195 | 0.000841279 | 0.003812657 | 5.68915E-05 | 5.29116E-06 | — |
| Zinc | Zn | 0.273020037 | 0.09595735 | 0.060411744 | — | — | — | 0.00313393 | 0.113517013 | 0.273051526 | 0.095986556 | 0.060430131 | — | — | — | 0.003083276 | 0.113551563 | 0.276590757 | 0.095986556 | 0.060430131 | — |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | 0.145453191 | 0.011332085 | 0.145490458 | — | — | — | — | — | 0.145490458 | — | 0.006154925 | 0.004235601 | 0.00066665 | — | — | — | — | 0.001252673 |
| Antimony | Sb | — | — | 0.000512586 | 0.000845394 | 0.001993787 | 0.00056805 | 7.31509E-05 | — | — | — | 0.000512586 | 0.00084 | 6.39065E-07 | 2.45085E-07 | 3.1561E-08 | — | — | — | — | 3.62418E-07 |
| Arsenic | As | — | — | 0.000642882 | 0.005669391 | 0.007282213 | 0.00068784 | 0.000300724 | — | — | — | 0.000642882 | 0.005650767 | 1.78084E-06 | 1.84496E-07 | 8.06617E-08 | — | — | — | — | 1.51568E-06 |
| Cadmium | Cd | — | — | 2.94483E-05 | 0.000629038 | 0.001029313 | 0.000265291 | 0.000121468 | — | — | — | 1.48785E-05 | 0.000627675 | 1.42178E-07 | 3.71817E-08 | 1.70243E-08 | — | — | — | — | 8.79716E-08 |
| Cobalt | Co | — | — | 0.00036492 | 0.019157175 | 0.021137548 | 0.001289867 | 0.000369118 | — | — | — | 0.000404736 | 0.019073826 | 1.00377E-05 | 6.24481E-07 | 1.78706E-07 | — | — | — | — | 9.23447E-06 |
| Copper | Cu | — | — | 0.000844134 | 0.04141749 | 0.126175564 | 0.055963528 | 0.028026159 | — | — | — | 0.000808037 | 0.04137784 | 9.81763E-06 | 4.38255E-06 | 2.19475E-06 | — | — | — | — | 3.24033E-06 |
| Cyanide | CN- | — | — | 0.000760535 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — | — | — | — | — | — | — | — | — |
| Lead | Pb | — | — | 0.000760751 | 0.015849076 | 0.018731553 | 0.002383804 | 8.3376E-05 | — | — | — | 0.000597559 | 0.015666814 | 1.28616E-05 | 1.69073E-06 | 5.9135E-08 | — | — | — | — | 1.11118E-05 |
| Mercury | Hg | — | — | 9.06397E-06 | 6.60978E-05 | 0.000334225 | 0.000222851 | 3.5075E-05 | — | — | — | 1.03911E-05 | 6.59078E-05 | 1.04703E-07 | 7.2053E-08 | 1.13406E-08 | — | — | — | — | 2.13096E-08 |
| Methyl-Mercury | Me-Hg | — | — | 9.06397E-06 | — | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | 6.03396E-05 | 0.000199401 | 0.000362525 | 1.19989E-07 | 0.000104918 | — | — | — | 6.03396E-05 | 0.000197147 | 1.50548E-07 | 5.9778E-11 | 5.22699E-08 | — | — | — | — | 9.8218E-08 |
| Thallium | Tl | — | — | 0.00018124 | 0.000420984 | 0.000633336 | 5.6805E-06 | 2.64156E-05 | — | — | — | 0.00018124 | 0.00042 | 2.7163E-08 | 3.41298E-10 | 1.58711E-09 | — | — | — | — | 2.52346E-08 |
| Uranium | U | — | — | 0.002909195 | 0.000841279 | 0.003811283 | 0.000056805 | 5.28312E-06 | — | — | — | 0.002909195 | 0.00084 | 8.20177E-08 | 5.1647E-09 | 4.8034E-10 | — | — | — | — | 7.63726E-08 |
| Zinc | Zn | — | — | 0.006622507 | 0.113551563 | 0.271913733 | 0.095582016 | 0.060175445 | — | — | — | 0.003083276 | 0.113072995 | 8.1949E-05 | 2.91368E-05 | 1.83436E-05 | — | — | — | — | 3.44686E-05 |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.049511016 | 0.034071727 | 0.005362623 | — | — | — | — | 0.010076666 | 0.055679433 | 0.038316613 | 0.006030735 | — | — | — | — | 0.011332085 | 0.201132624 | 0.038316613 | 0.006030735 | — |
| Antimony | Sb | 0.00129813 | 3.40184E-06 | 4.38073E-07 | — | — | — | 0.00128926 | 5.03045E-06 | 9.5109E-06 | 3.64749E-06 | 4.69707E-07 | — | — | — | — | 5.3937E-06 | 0.000522097 | 3.64749E-06 | 4.69707E-07 | — |
| Arsenic | As | 0.005259169 | 2.08203E-06 | 9.10265E-07 | — | — | — | 0.005239072 | 1.71044E-05 | 2.18818E-05 | 2.26697E-06 | 9.9112E-07 | — | — | — | — | 1.86237E-05 | 0.000664763 | 2.26697E-06 | 9.9112E-07 | — |
| Cadmium | Cd | 2.15075E-05 | 5.38776E-07 | 2.46689E-07 | — | — | — | 1.94473E-05 | 1.27474E-06 | 2.20275E-06 | 5.76054E-07 | 2.63757E-07 | — | — | — | — | 1.36294E-06 | 3.16511E-05 | 5.76054E-07 | 2.63757E-07 | — |
| Cobalt | Co | 8.05377E-05 | 5.01056E-06 | 1.43386E-06 | — | — | — | — | 7.40933E-05 | 9.05985E-05 | 5.63648E-06 | 1.61298E-06 | — | — | — | — | 8.33491E-05 | 0.000443131 | 5.63648E-06 | 1.61298E-06 | — |
| Copper | Cu | 0.000830354 | 4.92323E-05 | 2.46552E-05 | — | — | — | 0.000720066 | 3.6401E-05 | 0.000120134 | 5.36275E-05 | 2.68563E-05 | — | — | — | — | 3.96506E-05 | 0.000964269 | 5.36275E-05 | 2.68563E-05 | — |
| Cyanide | CN- | 0.00067881 | — | — | — | — | — | 0.00067881 | — | — | — | — | — | — | — | — | — | 0.000760535 | — | — | — |
| Lead | Pb | 0.000833366 | 2.60378E-05 | 9.10698E-07 | — | — | — | 0.000635293 | 0.000171125 | 0.000210965 | 2.77323E-05 | 9.69968E-07 | — | — | — | — | 0.000182262 | 0.000971715 | 2.77323E-05 | 9.69968E-07 | — |
| Mercury | Hg | 8.28612E-07 | 5.70222E-07 | 8.97484E-08 | — | — | — | — | 1.68642E-07 | 9.33562E-07 | 6.42445E-07 | 1.01116E-07 | — | — | — | — | 1.90002E-07 | 9.99754E-06 | 6.42445E-07 | 1.01116E-07 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.06397E-06 | — | — | — |
| Silver | Ag | 3.30398E-06 | 1.31191E-09 | 1.14713E-06 | — | — | — | — | 2.15553E-06 | 3.45487E-06 | 1.37182E-09 | 1.19952E-06 | — | — | — | — | 2.25397E-06 | 6.37944E-05 | 1.37182E-09 | 1.19952E-06 | — |
| Thallium | Tl | 1.03201E-06 | 1.29671E-08 | 6.02997E-08 | — | — | — | — | 9.58748E-07 | 1.05926E-06 | 1.33094E-08 | 6.18918E-08 | — | — | — | — | 9.8406E-07 | 0.000182299 | 1.33094E-08 | 6.18918E-08 | — |
| Uranium | U | 1.2911E-06 | 8.13014E-08 | 7.56139E-09 | — | — | — | — | 1.20224E-06 | 1.37335E-06 | 8.64804E-08 | 8.04307E-09 | — | — | — | — | 1.27882E-06 | 0.002910569 | 8.64804E-08 | 8.04307E-09 | — |
| Zinc | Zn | 0.00418958 | 0.000375334 | 0.000236299 | — | — | — | 0.00313393 | 0.000444018 | 0.001137794 | 0.00040454 | 0.000254686 | — | — | — | — | 0.000478568 | 0.007760301 | 0.00040454 | 0.000254686 | — |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | 0.145453191 | 0.011332085 | 0.151645382 | 0.004235601 | 0.00066665 | — | — | — | 0.145490458 | 0.001252673 | 0.195024744 | 0.034071727 | 0.005362623 | — | — | — | 0.145513727 | 0.010076666 |
| Antimony | Sb | — | — | 0.000512586 | 5.3937E-06 | 0.001994426 | 0.000568295 | 7.31824E-05 | — | — | — | 0.000512586 | 0.000840362 | 0.002779331 | 0.000571452 | 7.35889E-05 | — | — | — | 0.00128926 | 0.00084503 |
| Arsenic | As | — | — | 0.000642882 | 1.86237E-05 | 0.007283994 | 0.000688024 | 0.000300805 | — | — | — | 0.000642882 | 0.005652283 | 0.0118985 | 0.000689922 | 0.000301634 | — | — | — | 0.005239072 | 0.005667872 |
| Cadmium | Cd | — | — | 2.94483E-05 | 1.36294E-06 | 0.001029455 | 0.000265328 | 0.000121485 | — | — | — | 1.48785E-05 | 0.000627763 | 0.001035942 | 0.00026583 | 0.000121715 | — | — | — | 1.94473E-05 | 0.00062895 |
| Cobalt | Co | — | — | 0.000352532 | 8.33491E-05 | 0.021147586 | 0.001290492 | 0.000369297 | — | — | — | 0.000404736 | 0.01908306 | 0.021193504 | 0.001294878 | 0.000370552 | — | — | — | 0.000380155 | 0.019147919 |
| Copper | Cu | — | — | 0.000844134 | 3.96506E-05 | 0.126185381 | 0.05596791 | 0.028028354 | — | — | — | 0.000808037 | 0.04138108 | 0.126285852 | 0.05601276 | 0.028050814 | — | — | — | 0.000808037 | 0.04141424 |
| Cyanide | CN- | — | — | 0.000760535 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — | 0.000760561 | — | — | — | — | — | 0.000760561 | — |
| Lead | Pb | — | — | 0.000760751 | 0.000182262 | 0.018744415 | 0.002385494 | 8.34351E-05 | — | — | — | 0.000597559 | 0.015677926 | 0.01896736 | 0.002409841 | 8.42867E-05 | — | — | — | 0.000635293 | 0.01583794 |
| Mercury | Hg | — | — | 9.06397E-06 | 1.90002E-07 | 0.000334329 | 0.000222923 | 3.50863E-05 | — | — | — | 1.03911E-05 | 6.59291E-05 | 0.000335054 | 0.000223421 | 3.51647E-05 | — | — | — | 1.03921E-05 | 6.60764E-05 |
| Methyl-Mercury | Me-Hg | — | — | 9.06397E-06 | — | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | 1.03921E-05 | — | — | — | — | — | 1.03921E-05 | — |
| Silver | Ag | — | — | 6.03396E-05 | 2.25397E-06 | 0.000362676 | 1.20049E-07 | 0.000104971 | — | — | — | 6.03396E-05 | 0.000197246 | 0.000365829 | 1.21301E-07 | 0.000106065 | — | — | — | 6.03396E-05 | 0.000199303 |
| Thallium | Tl | — | — | 0.00018124 | 9.8406E-07 | 0.000633363 | 5.68084E-06 | 2.64172E-05 | — | — | — | 0.00018124 | 0.000420025 | 0.000634368 | 5.69347E-06 | 2.64759E-05 | — | — | — | 0.00018124 | 0.000420959 |
| Uranium | U | — | — | 0.002909195 | 1.27882E-06 | 0.003811365 | 5.68102E-05 | 5.2836E-06 | — | — | — | 0.002909195 | 0.000840076 | 0.003812575 | 5.68863E-05 | 5.29068E-06 | — | — | — | 0.002909195 | 0.000841202 |
| Zinc | Zn | — | — | 0.006622507 | 0.000478568 | 0.271995682 | 0.095611153 | 0.060193789 | — | — | — | 0.003083276 | 0.113107463 | 0.273020037 | 0.09595735 | 0.060411744 | — | — | — | 0.00313393 | 0.113517013 |

## Table VI-1A Estimated Ecological Exposure Dose: Meadow Vole

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) | Total Dose to Meadow Vole (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_1 (mg/kg/d) | Dose to Meadow Vole from the consumption of Plant_2 (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of — (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Water (dry) (mg/kg/d) | Dose to Meadow Vole from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.20116989 | 0.038316613 | 0.006030735 | — | — | — | 0.145490458 | 0.011332085 | 0.201132624 | 0.038316613 | 0.006030735 | — | — | — | 0.145453191 | 0.011332085 |
| Antimony | Sb | 0.002003298 | 0.000571697 | 7.36206E-05 | — | — | — | 0.000512586 | 0.000845394 | 0.002003298 | 0.000571697 | 7.36206E-05 | — | — | — | 0.000512586 | 0.000845394 |
| Arsenic | As | 0.007304094 | 0.000690107 | 0.000301715 | — | — | — | 0.000642882 | 0.005669391 | 0.007304094 | 0.000690107 | 0.000301715 | — | — | — | 0.000642882 | 0.005669391 |
| Cadmium | Cd | 0.001031516 | 0.000265867 | 0.000121732 | — | — | — | 1.48785E-05 | 0.000629038 | 0.001046085 | 0.000265867 | 0.000121732 | — | — | — | 2.94483E-05 | 0.000629038 |
| Cobalt | Co | 0.021228146 | 0.001295504 | 0.000370731 | — | — | — | 0.000404736 | 0.019157175 | 0.02118833 | 0.001295504 | 0.000370731 | — | — | — | 0.00036492 | 0.019157175 |
| Copper | Cu | 0.126295698 | 0.056017155 | 0.028053015 | — | — | — | 0.000808037 | 0.04141749 | 0.126331795 | 0.056017155 | 0.028053015 | — | — | — | 0.000844134 | 0.04141749 |
| Cyanide | CN- | 0.000760561 | — | — | — | — | — | 0.000760561 | — | 0.000760535 | — | — | — | — | — | 0.000760535 | — |
| Lead | Pb | 0.018942518 | 0.002411536 | 8.4346E-05 | — | — | — | 0.000597559 | 0.015849076 | 0.019105709 | 0.002411536 | 8.4346E-05 | — | — | — | 0.000760751 | 0.015849076 |
| Mercury | Hg | 0.000335158 | 0.000223493 | 3.51761E-05 | — | — | — | 1.03911E-05 | 6.60978E-05 | 0.000333831 | 0.000223493 | 3.51761E-05 | — | — | — | 9.06397E-06 | 6.60978E-05 |
| Methyl-Mercury | Me-Hg | 1.03911E-05 | — | — | — | — | — | 1.03911E-05 | — | 9.06397E-06 | — | — | — | — | — | 9.06397E-06 | — |
| Silver | Ag | 0.00036598 | 1.21361E-07 | 0.000106118 | — | — | — | 6.03396E-05 | 0.000199401 | 0.00036598 | 1.21361E-07 | 0.000106118 | — | — | — | 6.03396E-05 | 0.000199401 |
| Thallium | Tl | 0.000634395 | 5.69381E-06 | 2.64775E-05 | — | — | — | 0.00018124 | 0.000420984 | 0.000634395 | 5.69381E-06 | 2.64775E-05 | — | — | — | 0.00018124 | 0.000420984 |
| Uranium | U | 0.003812657 | 5.68915E-05 | 5.29116E-06 | — | — | — | 0.002909195 | 0.000841279 | 0.003812657 | 5.68915E-05 | 5.29116E-06 | — | — | — | 0.002909195 | 0.000841279 |
| Zinc | Zn | 0.273051526 | 0.095986556 | 0.060430131 | — | — | — | 0.003083276 | 0.113551563 | 0.276590757 | 0.095986556 | 0.060430131 | — | — | — | 0.006622507 | 0.113551563 |

**Table VI-1B Estimated Ecological Risk: Meadow Vole**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | 0.015950297 | 0.00159503 | 0.111262716 | 0.011126272 | 0.114622716 | 0.011462272 | 0.00336 | 0.000336 | 0.111262716 | 0.011126272 | 0.003434751 | 0.000343475 | 0.115363406 | 0.011536341 | 0.114622716 | 0.011462272 | 0.115363406 | 0.011536341 | 0.015284358 | 0.001528436 | 0.015950297 |
| Arsenic | As | 0.056017021 | 0.005601702 | 0.295574312 | 0.029557431 | 0.324651235 | 0.032465123 | 0.029076923 | 0.002907692 | 0.295574312 | 0.029557431 | 0.005963987 | 0.000596399 | 0.300519556 | 0.030051956 | 0.324651235 | 0.032465123 | 0.300519556 | 0.030051956 | 0.057035764 | 0.005703576 | 0.056017021 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.002883704 | 0.002401994 | 0.029847418 | 0.024861542 | 0.029962015 | 0.024956997 | 0.000114598 | 9.54545E-05 | 0.029847418 | 0.024861542 | 0.000269566 | 0.000224537 | 0.029902634 | 0.024907535 | 0.029962015 | 0.024956997 | 0.029902634 | 0.024907535 | 0.003098054 | 0.002580538 | 0.002883704 |
| Copper | Cu | 0.010784236 | 0.008333921 | 0.017104649 | 0.013218256 | 0.017427726 | 0.013467926 | 0.000323077 | 0.00024967 | 0.017104649 | 0.013218256 | 0.000288757 | 0.000223148 | 0.017173712 | 0.013271627 | 0.017427726 | 0.013467926 | 0.017173712 | 0.013271627 | 0.01100393 | 0.008503698 | 0.010784236 |
| Lead | Pb | 0.002341444 | 0.000234144 | 0.035180694 | 0.003518069 | 0.037333194 | 0.003733319 | 0.0021525 | 0.00021525 | 0.035180694 | 0.003518069 | 0.000635926 | 6.35926E-05 | 0.035255389 | 0.003525539 | 0.037333194 | 0.003733319 | 0.035255389 | 0.003525539 | 0.002902675 | 0.000290268 | 0.002341444 |
| Mercury | Hg | 0.000334225 | 0.000334225 | 0.00226793 | 0.00226793 | 0.00264593 | 0.00264593 | 0.000378 | 0.000378 | 0.00226793 | 0.00226793 | 6.04281E-05 | 6.04281E-05 | 0.002278321 | 0.002278321 | 0.00264593 | 0.00264593 | 0.002278321 | 0.002278321 | 0.000384262 | 0.000384262 | 0.000334225 |
| Methyl-Mercury | Me-Hg | 0.000324723 | 6.49445E-05 | — | — | 0.0118125 | 0.0023625 | 0.0118125 | 0.0023625 | — | — | 0.0013125 | 0.0002625 | 0.000324723 | 6.49445E-05 | 0.0118125 | 0.0023625 | 0.000324723 | 6.49445E-05 | 0.0013125 | 0.0002625 | 0.000324723 |
| Silver | Ag | 6.02201E-05 | 6.02201E-06 | 0.000545267 | 5.45267E-05 | 0.000547011 | 5.47011E-05 | 1.74419E-06 | 1.74419E-07 | 0.000545267 | 5.45267E-05 | 1.43091E-05 | 1.43091E-06 | 0.00055529 | 5.5529E-05 | 0.000547011 | 5.47011E-05 | 0.00055529 | 5.5529E-05 | 6.45061E-05 | 6.45061E-06 | 6.02201E-05 |
| Thallium | Tl | 0.085585902 | 0.00855859 | 0.072947872 | 0.007294787 | 18.29186679 | 1.829186679 | 18.21891892 | 1.821891892 | 0.072947872 | 0.007294787 | 0.011193556 | 0.001119356 | 0.097439708 | 0.009743971 | 18.29186679 | 1.829186679 | 0.097439708 | 0.009743971 | 0.072287623 | 0.007228762 | 0.085585902 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.001699461 | 0.00084973 | 0.011081455 | 0.005540728 | 0.011133955 | 0.005566978 | 0.0000525 | 0.00002625 | 0.011081455 | 0.005540728 | 0.000176393 | 8.81964E-05 | 0.011100726 | 0.005550363 | 0.011133955 | 0.005566978 | 0.011100726 | 0.005550363 | 0.001856583 | 0.000928292 | 0.001699461 |
| Aluminum | Al | 0.075383657 | 0.007538366 | 70.37826551 | 7.037826551 | 70.39991836 | 7.039991836 | 0.02165285 | 0.002165285 | 70.37826551 | 7.037826551 | 0.577086508 | 0.057708651 | 70.45364917 | 7.045364917 | 70.39991836 | 7.039991836 | 70.45364917 | 7.045364917 | 0.577086508 | 0.057708651 | 0.075383657 |
| Cyanide | CN- | 1.10226E-05 | 1.10226E-05 | — | — | 0.003043478 | 0.003043478 | 0.003043478 | 0.003043478 | — | — | 1.52174E-05 | 1.52174E-05 | 1.10226E-05 | 1.10226E-05 | 0.003043478 | 0.003043478 | 1.10226E-05 | 1.10226E-05 | 1.52174E-05 | 1.52174E-05 | 1.10226E-05 |

**Table VI-1B Estimated Ecological Risk: Meadow Vole**

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | 0.00159503 | 5.11252E-06 | 5.11252E-07 | 0.010385043 | 0.001038504 | 7.60872E-05 | 7.60872E-06 | 0.004176778 | 0.000417678 | 0.01595541 | 0.001595541 | 0.02223465 | 0.002223465 | 0.016026385 | 0.001602638 | 0.016026385 | 0.001602638 | 0.015950297 | 0.00159503 | 5.11252E-06 | 5.11252E-07 |
| Arsenic | As | 0.005601702 | 1.36987E-05 | 1.36987E-06 | 0.040455146 | 0.004045515 | 0.000168321 | 1.68321E-05 | 0.005113565 | 0.000511357 | 0.056030719 | 0.005603072 | 0.091526923 | 0.009152692 | 0.056185342 | 0.005618534 | 0.056185342 | 0.005618534 | 0.056017021 | 0.005601702 | 1.36987E-05 | 1.36987E-06 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.002401994 | 1.36939E-06 | 1.14064E-06 | 1.09874E-05 | 9.15201E-06 | 1.236E-05 | 1.02953E-05 | 6.04544E-05 | 5.03558E-05 | 0.002885073 | 0.002403135 | 0.002891338 | 0.002408353 | 0.002896064 | 0.002412289 | 0.002890632 | 0.002407765 | 0.002883704 | 0.002401994 | 1.36939E-06 | 1.14064E-06 |
| Copper | Cu | 0.008333921 | 8.39114E-07 | 6.48457E-07 | 7.09705E-05 | 5.48451E-05 | 1.02679E-05 | 7.9349E-06 | 8.24161E-05 | 6.36901E-05 | 0.010785075 | 0.008334569 | 0.010793663 | 0.008341206 | 0.010794504 | 0.008341856 | 0.010797589 | 0.00834424 | 0.010784236 | 0.008333921 | 8.39114E-07 | 6.48457E-07 |
| Lead | Pb | 0.000234144 | 1.60771E-06 | 1.60771E-07 | 0.000104171 | 1.04171E-05 | 2.63706E-05 | 2.63706E-06 | 0.000121464 | 1.21464E-05 | 0.002343052 | 0.000234305 | 0.00237092 | 0.000237092 | 0.002367815 | 0.000236781 | 0.002388214 | 0.000238821 | 0.002341444 | 0.000234144 | 1.60771E-06 | 1.60771E-07 |
| Mercury | Hg | 0.000334225 | 1.04703E-07 | 1.04703E-07 | 8.28612E-07 | 8.28612E-07 | 9.33562E-07 | 9.33562E-07 | 9.99754E-06 | 9.99754E-06 | 0.000334329 | 0.000334329 | 0.000335054 | 0.000335054 | 0.000335158 | 0.000335158 | 0.000333831 | 0.000333831 | 0.000334225 | 0.000334225 | 1.04703E-07 | 1.04703E-07 |
| Methyl-Mercury | Me-Hg | 6.49445E-05 | — | — | — | — | — | — | 0.000283249 | 5.66498E-05 | 0.000324723 | 6.49445E-05 | 0.000324754 | 6.49509E-05 | 0.000324723 | 6.49445E-05 | 0.000283249 | 5.66498E-05 | 0.000324723 | 6.49445E-05 | — | — |
| Silver | Ag | 6.02201E-06 | 2.50079E-08 | 2.50079E-09 | 5.48833E-07 | 5.48833E-08 | 5.73899E-07 | 5.73899E-08 | 1.05971E-05 | 1.05971E-06 | 6.02452E-05 | 6.02452E-06 | 6.0769E-05 | 6.0769E-06 | 6.0794E-05 | 6.0794E-06 | 6.0794E-05 | 6.0794E-06 | 6.02201E-05 | 6.02201E-06 | 2.50079E-08 | 2.50079E-09 |
| Thallium | Tl | 0.00855859 | 3.67067E-06 | 3.67067E-07 | 0.000139461 | 1.39461E-05 | 0.000143143 | 1.43143E-05 | 0.024634979 | 0.002463498 | 0.085589573 | 0.008558957 | 0.085725364 | 0.008572536 | 0.085729046 | 0.008572905 | 0.085729046 | 0.008572905 | 0.085585902 | 0.00855859 | 3.67067E-06 | 3.67067E-07 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.00084973 | 5.12181E-07 | 2.56091E-07 | 2.61849E-05 | 1.30924E-05 | 7.111221E-06 | 3.55561E-06 | 4.85019E-05 | 2.42509E-05 | 0.001699973 | 0.000849987 | 0.001706375 | 0.000853188 | 0.001706572 | 0.000853286 | 0.001728692 | 0.000864346 | 0.001699461 | 0.00084973 | 5.12181E-07 | 2.56091E-07 |
| Aluminum | Al | 0.007538366 | 0.00318908 | 0.000318908 | 0.025653376 | 0.002565338 | 0.028849447 | 0.002884945 | 0.104213795 | 0.010421379 | 0.078572737 | 0.007857274 | 0.10104909 | 0.010104909 | 0.104233104 | 0.01042331 | 0.104213795 | 0.010421379 | 0.075383657 | 0.007538366 | 0.00318908 | 0.000318908 |
| Cyanide | CN- | 1.10226E-05 | — | — | 9.83782E-06 | 9.83782E-06 | — | — | 1.10222E-05 | 1.10222E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10222E-05 | 1.10222E-05 | 1.10226E-05 | 1.10226E-05 | — | — |

## Table VI-1B Estimated Ecological Risk: Meadow Vole

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) | Risk to Meadow Vole (NOAELm) | Risk to Meadow Vole (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | 0.010385043 | 0.001038504 | 7.60872E-05 | 7.60872E-06 | 0.004176778 | 0.000417678 | 0.01595541 | 0.001595541 | 0.02223465 | 0.002223465 | 0.016026385 | 0.001602638 |
| Arsenic | As | 0.040455146 | 0.004045515 | 0.000168321 | 1.68321E-05 | 0.005113565 | 0.000511357 | 0.056030719 | 0.005603072 | 0.091526923 | 0.009152692 | 0.056185342 | 0.005618534 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 1.09874E-05 | 9.15201E-06 | 1.236E-05 | 1.02953E-05 | 6.04544E-05 | 5.03558E-05 | 0.002885073 | 0.002403135 | 0.002891338 | 0.002408353 | 0.002896064 | 0.002412289 |
| Copper | Cu | 7.09705E-05 | 5.48451E-05 | 1.02679E-05 | 7.9349E-06 | 8.24161E-05 | 6.36901E-05 | 0.010785075 | 0.008334569 | 0.010793663 | 0.008341206 | 0.010794504 | 0.008341856 |
| Lead | Pb | 0.000104171 | 1.04171E-05 | 2.63706E-05 | 2.63706E-06 | 0.000121464 | 1.21464E-05 | 0.002343052 | 0.000234305 | 0.00237092 | 0.000237092 | 0.002367815 | 0.000236781 |
| Mercury | Hg | 8.28612E-07 | 8.28612E-07 | 9.33562E-07 | 9.33562E-07 | 9.99754E-06 | 9.99754E-06 | 0.000334329 | 0.000334329 | 0.000335054 | 0.000335054 | 0.000335158 | 0.000335158 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000283249 | 5.66498E-05 | 0.000324723 | 6.49445E-05 | 0.000324754 | 6.49509E-05 | 0.000324723 | 6.49445E-05 |
| Silver | Ag | 5.48833E-07 | 5.48833E-08 | 5.73899E-07 | 5.73899E-08 | 1.05971E-05 | 1.05971E-06 | 6.02452E-05 | 6.02452E-06 | 6.0769E-05 | 6.0769E-06 | 6.0794E-05 | 6.0794E-06 |
| Thallium | Tl | 0.000139461 | 1.39461E-05 | 0.000143143 | 1.43143E-05 | 0.024634979 | 0.002463498 | 0.085589573 | 0.008558957 | 0.085725364 | 0.008572536 | 0.085729046 | 0.008572905 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 2.61849E-05 | 1.30924E-05 | 7.11121E-06 | 3.55561E-06 | 4.85019E-05 | 2.42509E-05 | 0.001699973 | 0.000849987 | 0.001706375 | 0.000853188 | 0.001706572 | 0.000853286 |
| Aluminum | Al | 0.025653376 | 0.002565338 | 0.028849447 | 0.002884945 | 0.104213795 | 0.010421379 | 0.078572737 | 0.007857274 | 0.10104909 | 0.010104909 | 0.104233104 | 0.01042331 |
| Cyanide | CN- | 9.83782E-06 | 9.83782E-06 | — | — | 1.10222E-05 | 1.10222E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 | 1.10226E-05 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 4.468635481 | — | 4.433994895 | — | — | — | 0.034640585 | — | 269.8643142 | 263.2822577 | — | — | — | — | — | 6.582056444 | 269.8742642 | 263.2822577 | — | — | — |
| Antimony | Sb | 0.003581848 | 0.0016 | 0.001659803 | — | — | — | 0.000122044 | 0.0002 | 0.016901226 | 0.015023312 | — | — | — | — | — | 0.001877914 | 0.021175973 | 0.015023312 | 0.004174747 | — | — |
| Arsenic | As | 0.003876727 | 0.001937406 | 0.000440833 | — | — | — | 0.000153067 | 0.001345421 | 0.018999129 | 0.011212601 | — | — | — | — | — | 0.007786528 | 0.023491636 | 0.011212601 | 0.003592507 | — | — |
| Cadmium | Cd | 0.006284808 | 0.000747232 | 0.005384586 | — | — | — | 3.54249E-06 | 0.000149446 | 0.002655159 | 0.002212632 | — | — | — | — | — | 0.000442526 | 0.00979323 | 0.002212632 | 0.007038071 | — | — |
| Cobalt | Co | 0.193293247 | 0.00363311 | 0.185022385 | — | — | — | 9.63658E-05 | 0.004541387 | 0.086260817 | 0.038338141 | — | — | — | — | — | 0.047922676 | 0.086460817 | 0.038338141 | — | — | — |
| Copper | Cu | 0.229238856 | 0.157629865 | 0.061564734 | — | — | — | 0.00019239 | 0.009851867 | 0.267351375 | 0.251624824 | — | — | — | — | — | 0.015726551 | 0.323113542 | 0.251624824 | 0.054862167 | — | — |
| Cyanide | CN- | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | — | — | — | — | — | — | — | — | 0.070687528 | — | 0.020687528 | — | — |
| Lead | Pb | 0.049285909 | 0.006714349 | 0.038699091 | — | — | — | 0.000142276 | 0.003730194 | 0.162102742 | 0.104208906 | — | — | — | — | — | 0.057893837 | 0.2073455 | 0.104208906 | 0.041142758 | — | — |
| Mercury | Hg | 0.000962541 | 0.000627693 | 0.000316682 | — | — | — | 2.47408E-06 | 1.56923E-05 | 0.004505877 | 0.004395977 | — | — | — | — | — | 0.000109899 | 0.004595877 | 0.004395977 | — | — | — |
| Methyl-Mercury | Me-Hg | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 | — | — | — | — | — | — | — | — | — | 0.00009 | — | — | — | — |
| Silver | Ag | 0.001900564 | 3.37967E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.69399E-05 | 0.000513557 | 3.67118E-06 | — | — | — | — | — | 0.000509886 | 0.000516057 | 3.67118E-06 | — | — | — |
| Thallium | Tl | 0.005682644 | 0.000016 | 0.005523492 | — | — | — | 4.31523E-05 | 0.0001 | 0.000138507 | 1.91044E-05 | — | — | — | — | — | 0.000119403 | 0.032238507 | 1.91044E-05 | — | — | — |
| Uranium | U | 0.089713857 | 0.00016 | 0.088661191 | — | — | — | 0.000692666 | 0.0002 | 0.000674843 | 0.00029993 | — | — | — | — | — | 0.000374913 | 0.000924843 | 0.00029993 | — | — | — |
| Zinc | Zn | 0.343860931 | 0.269221416 | 0.04698326 | — | — | — | 0.000734113 | 0.026922142 | 1.953172498 | 1.775611362 | — | — | — | — | — | 0.177561136 | 2.002927617 | 1.775611362 | 0.047755119 | — | — |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| Phase | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.00995 | 6.582056444 | 269.8643142 | 263.2822577 | — | — | — | — | — | 6.582056444 | 6.618146222 | 2.128328835 | 4.432859166 | — | — | — | 0.00375 | 0.053208221 | 274.3329497 | 263.2822577 |
| Antimony | Sb | — | 0.0001 | 0.001877914 | 0.016901226 | 0.015023312 | — | — | — | — | — | 0.001877914 | 0.001940565 | 0.000197369 | 0.001659803 | — | — | — | 5.87213E-05 | 2.46711E-05 | 0.018683074 | 0.015023312 |
| Arsenic | As | — | 0.0009 | 0.007786528 | 0.018999129 | 0.011212601 | — | — | — | — | — | 0.007786528 | 0.000734134 | 0.000123733 | 0.000440833 | — | — | — | 8.36418E-05 | 8.59257E-05 | 0.019593029 | 0.011212601 |
| Cadmium | Cd | — | 0.0001 | 0.000442526 | 0.002655159 | 0.002212632 | — | — | — | — | — | 0.000442526 | 0.010704839 | 3.11204E-05 | 0.010657494 | — | — | — | 0.00001 | 6.22409E-06 | 0.008043287 | 0.002212632 |
| Cobalt | Co | — | 0.0002 | 0.047922676 | 0.086260817 | 0.038338141 | — | — | — | — | — | 0.047922676 | 0.161907151 | 0.000313131 | 0.161157606 | — | — | — | 0.000045 | 0.000391414 | 0.271379567 | 0.038338141 |
| Copper | Cu | — | 0.0009 | 0.015726551 | 0.267351375 | 0.251624824 | — | — | — | — | — | 0.015726551 | 0.067675647 | 0.002927665 | 0.064315003 | — | — | — | 0.00025 | 0.000182979 | 0.329108499 | 0.251624824 |
| Cyanide | CN- | — | 0.05 | — | — | — | — | — | — | — | — | — | 0.023428212 | — | 0.023178212 | — | — | — | 0.00025 | — | 0.023360075 | — |
| Lead | Pb | — | 0.0041 | 0.057893837 | 0.162102742 | 0.104208906 | — | — | — | — | — | 0.057893837 | 0.051843056 | 0.001494903 | 0.049267653 | — | — | — | 0.00025 | 0.000830501 | 0.200944109 | 0.104208906 |
| Mercury | Hg | — | 0.00009 | 0.000109899 | 0.004505877 | 0.004395977 | — | — | — | — | — | 0.000109899 | 0.000322848 | 3.57196E-05 | 0.000276235 | — | — | — | 0.00001 | 8.9299E-07 | 0.004825032 | 0.004395977 |
| Methyl-Mercury | Me-Hg | — | 0.00009 | — | — | — | — | — | — | — | — | — | 0.000286235 | — | 0.000276235 | — | — | — | 0.00001 | — | 0.000319156 | — |
| Silver | Ag | — | 0.0000025 | 0.000509886 | 0.000513557 | 3.67118E-06 | — | — | — | — | — | 0.000509886 | 0.001854089 | 7.31579E-08 | 0.00183892 | — | — | — | 4.93528E-06 | 1.01608E-05 | 0.002366844 | 3.67118E-06 |
| Thallium | Tl | — | 0.0321 | 0.000119403 | 0.000138507 | 1.91044E-05 | — | — | — | — | — | 0.000119403 | 0.005543581 | 7.0188E-07 | 0.005523492 | — | — | — | 0.000015 | 4.38675E-06 | 0.005705151 | 1.91044E-05 |
| Uranium | U | — | 0.00025 | 0.000374913 | 0.000674843 | 0.00029993 | — | — | — | — | — | 0.000374913 | 0.088921672 | 4.65818E-06 | 0.088661191 | — | — | — | 0.00025 | 5.82272E-06 | 0.090028699 | 0.00029993 |
| Zinc | Zn | — | 0.002 | 0.177561136 | 1.953172498 | 1.775611362 | — | — | — | — | — | 0.177561136 | 0.126564604 | 0.021954736 | 0.100914395 | — | — | — | 0.0015 | 0.002195474 | 2.000889871 | 1.775611362 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 4.433994895 | — | — | — | 0.034640585 | 6.582056444 | 274.3089683 | 263.2822577 | 4.434704072 | — | — | — | 0.00995 | 6.582056444 | 274.3329497 | 263.2822577 | 4.433994895 | — | — | — | 0.034640585 |
| Antimony | Sb | 0.001659803 | — | — | — | 0.000122044 | 0.001877914 | 0.021175973 | 0.015023312 | 0.004174747 | — | — | — | 0.0001 | 0.001877914 | 0.018683074 | 0.015023312 | 0.001659803 | — | — | — | 0.000122044 |
| Arsenic | As | 0.000440833 | — | — | — | 0.000153067 | 0.007786528 | 0.023491636 | 0.011212601 | 0.003592507 | — | — | — | 0.0009 | 0.007786528 | 0.019593029 | 0.011212601 | 0.000440833 | — | — | — | 0.000153067 |
| Cadmium | Cd | 0.005384586 | — | — | — | 3.54249E-06 | 0.000442526 | 0.00979323 | 0.002212632 | 0.007038071 | — | — | — | 0.0001 | 0.000442526 | 0.008043287 | 0.002212632 | 0.005384586 | — | — | — | 3.54249E-06 |
| Cobalt | Co | 0.185022385 | — | — | — | 9.63658E-05 | 0.047922676 | 0.260246058 | 0.038338141 | 0.173785242 | — | — | — | 0.0002 | 0.047922676 | 0.271379567 | 0.038338141 | 0.185022385 | — | — | — | 9.63658E-05 |
| Copper | Cu | 0.061564734 | — | — | — | 0.00019239 | 0.015726551 | 0.32981611 | 0.251624824 | 0.061564734 | — | — | — | 0.0009 | 0.015726551 | 0.329108499 | 0.251624824 | 0.061564734 | — | — | — | 0.00019239 |
| Cyanide | CN- | 0.023178989 | — | — | — | 0.000181086 | — | 0.073178989 | — | 0.023178989 | — | — | — | 0.05 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 |
| Lead | Pb | 0.038699091 | — | — | — | 0.000142276 | 0.057893837 | 0.2073455 | 0.104208906 | 0.041142758 | — | — | — | 0.0041 | 0.057893837 | 0.200944109 | 0.104208906 | 0.038699091 | — | — | — | 0.000142276 |
| Mercury | Hg | 0.000316682 | — | — | — | 2.47408E-06 | 0.000109899 | 0.004912589 | 0.004395977 | 0.000316713 | — | — | — | 0.00009 | 0.000109899 | 0.004825032 | 0.004395977 | 0.000316682 | — | — | — | 2.47408E-06 |
| Methyl-Mercury | Me-Hg | 0.000316682 | — | — | — | 2.47408E-06 | — | 0.000406713 | — | 0.000316713 | — | — | — | 0.00009 | — | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 |
| Silver | Ag | 0.00183892 | — | — | — | 1.43666E-05 | 0.000509886 | 0.002354977 | 3.67118E-06 | 0.00183892 | — | — | — | 0.0000025 | 0.000509886 | 0.002366844 | 3.67118E-06 | 0.00183892 | — | — | — | 1.43666E-05 |
| Thallium | Tl | 0.005523492 | — | — | — | 4.31523E-05 | 0.000119403 | 0.037761999 | 1.91044E-05 | 0.005523492 | — | — | — | 0.0321 | 0.000119403 | 0.005705151 | 1.91044E-05 | 0.005523492 | — | — | — | 4.31523E-05 |
| Uranium | U | 0.088661191 | — | — | — | 0.000692666 | 0.000374913 | 0.089586034 | 0.00029993 | 0.088661191 | — | — | — | 0.00025 | 0.000374913 | 0.090028699 | 0.00029993 | 0.088661191 | — | — | — | 0.000692666 |
| Zinc | Zn | 0.04698326 | — | — | — | 0.000734113 | 0.177561136 | 2.002927617 | 1.775611362 | 0.047755119 | — | — | — | 0.002 | 0.177561136 | 2.000889871 | 1.775611362 | 0.04698326 | — | — | — | 0.000734113 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Moose from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 6.582056444 | 6.618146222 | 2.128328835 | 4.432859166 | — | — | — | 0.00375 | 0.053208221 | 4.468635481 | — | 4.433994895 | — | — | — | 0.034640585 | — | 0.012228476 | 0.011930221 | — | — |
| Antimony | Sb | 0.001877914 | 0.003740565 | 0.001797369 | 0.001659803 | — | — | — | 5.87213E-05 | 0.000224671 | 0.003581848 | 0.0016 | 0.001659803 | — | — | — | 0.000122044 | 0.0002 | 7.76611E-07 | 6.90321E-07 | — | — |
| Arsenic | As | 0.007786528 | 0.00401696 | 0.002061139 | 0.000440833 | — | — | — | 8.36418E-05 | 0.001431347 | 0.003876727 | 0.001937406 | 0.000440833 | — | — | — | 0.000153067 | 0.001345421 | 8.80537E-07 | 5.19661E-07 | — | — |
| Cadmium | Cd | 0.000442526 | 0.011601518 | 0.000778353 | 0.010657494 | — | — | — | 0.00001 | 0.000155671 | 0.006284808 | 0.000747232 | 0.005384586 | — | — | — | 3.54249E-06 | 0.000149446 | 1.25674E-07 | 1.04728E-07 | — | — |
| Cobalt | Co | 0.047922676 | 0.175744501 | 0.003946241 | 0.16682046 | — | — | — | 0.000045 | 0.004932801 | 0.193293247 | 0.00363311 | 0.185022385 | — | — | — | 9.63658E-05 | 0.004541387 | 3.95763E-06 | 1.75895E-06 | — | — |
| Copper | Cu | 0.015726551 | 0.235157378 | 0.16055753 | 0.064315003 | — | — | — | 0.00025 | 0.010034846 | 0.229238856 | 0.157629865 | 0.061564734 | — | — | — | 0.00019239 | 0.009851867 | 1.31156E-05 | 1.23441E-05 | — | — |
| Cyanide | CN- | — | 0.023428212 | — | 0.023178212 | — | — | — | 0.00025 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | — | — | — | — |
| Lead | Pb | 0.057893837 | 0.062287599 | 0.008209251 | 0.049267653 | — | — | — | 0.00025 | 0.004560695 | 0.049285909 | 0.006714349 | 0.038699091 | — | — | — | 0.000142276 | 0.003730194 | 7.40786E-06 | 4.76219E-06 | — | — |
| Mercury | Hg | 0.000109899 | 0.000966234 | 0.000663413 | 0.000276235 | — | — | — | 0.00001 | 1.65853E-05 | 0.000962541 | 0.000627693 | 0.000316682 | — | — | — | 2.47408E-06 | 1.56923E-05 | 2.08022E-07 | 2.02948E-07 | — | — |
| Methyl-Mercury | Me-Hg | — | 0.000286235 | — | 0.000276235 | — | — | — | 0.00001 | — | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 | — | — | — | — | — |
| Silver | Ag | 0.000509886 | 0.001901367 | 4.11125E-07 | 0.00183892 | — | — | — | 4.93528E-06 | 5.71007E-05 | 0.001900564 | 3.37967E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.69399E-05 | 2.35536E-08 | 1.68374E-10 | — | — |
| Thallium | Tl | 0.000119403 | 0.005659581 | 1.67019E-05 | 0.005523492 | — | — | — | 0.000015 | 0.000104387 | 0.005682644 | 0.000016 | 0.005523492 | — | — | — | 4.31523E-05 | 0.0001 | 6.96955E-09 | 9.61317E-10 | — | — |
| Uranium | U | 0.000374913 | 0.089281672 | 0.000164658 | 0.088661191 | — | — | — | 0.00025 | 0.000205823 | 0.089713857 | 0.00016 | 0.088661191 | — | — | — | 0.000692666 | 0.0002 | 3.27311E-08 | 1.45472E-08 | — | — |
| Zinc | Zn | 0.177561136 | 0.422708162 | 0.291176152 | 0.100914395 | — | — | — | 0.0015 | 0.029117615 | 0.343860931 | 0.269221416 | 0.04698326 | — | — | — | 0.000734113 | 0.026922142 | 9.0275E-05 | 8.20681E-05 | — | — |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.000298256 | 0.098367454 | 0.095968248 | — | — | — | — | — | 0.002399206 | 0.110622735 | 0.10792462 | — | — | — | — | — | 0.002698115 | 4.578113613 |
| Antimony | Sb | — | — | — | 8.62901E-08 | 0.004492493 | 9.5818E-06 | 0.004174747 | — | — | — | 0.000306967 | 1.19773E-06 | 1.15579E-05 | 1.02737E-05 | — | — | — | — | — | 1.28422E-06 | 0.001793406 |
| Arsenic | As | — | — | — | 3.60876E-07 | 0.004849842 | 5.86436E-06 | 0.003592507 | — | — | — | 0.001247398 | 4.07247E-06 | 1.08195E-05 | 6.38527E-06 | — | — | — | — | — | 4.43421E-06 | 0.00060472 |
| Cadmium | Cd | — | — | — | 2.09456E-08 | 0.007044523 | 1.51755E-06 | 0.007038071 | — | — | — | 4.63031E-06 | 3.03509E-07 | 1.94705E-06 | 1.62254E-06 | — | — | — | — | — | 3.24509E-07 | 0.010666453 |
| Cobalt | Co | — | — | — | 2.19868E-06 | 3.17543E-05 | 1.4113E-05 | — | — | — | — | — | 1.76413E-05 | 3.5721E-05 | 1.5876E-05 | — | — | — | — | — | 1.9845E-05 | 0.161277263 |
| Copper | Cu | — | — | — | 7.71508E-07 | 0.055180948 | 0.00013867 | 0.054862167 | — | — | — | 0.000171444 | 8.6669E-06 | 0.000160491 | 0.00015105 | — | — | — | — | — | 9.44063E-06 | 0.064676478 |
| Cyanide | CN- | — | — | — | — | 0.020849149 | — | 0.020687528 | — | — | — | 0.000161621 | — | — | — | — | — | — | — | — | — | 0.023359292 |
| Lead | Pb | — | — | — | 2.64566E-06 | 0.041408102 | 7.33394E-05 | 0.041142758 | — | — | — | 0.00015126 | 4.07441E-05 | 0.000121508 | 7.81124E-05 | — | — | — | — | — | 4.33958E-05 | 0.049570292 |
| Mercury | Hg | — | — | — | 5.07371E-09 | 1.64627E-06 | 1.60612E-06 | — | — | — | — | — | 4.01529E-08 | 1.85478E-06 | 1.80954E-06 | — | — | — | — | — | 4.52386E-08 | 0.000280248 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.000278393 |
| Silver | Ag | — | — | — | 2.33852E-08 | 5.16916E-07 | 3.69519E-09 | — | — | — | — | — | 5.13221E-07 | 5.40524E-07 | 3.86395E-09 | — | — | — | — | — | 5.3666E-07 | 0.001853827 |
| Thallium | Tl | — | — | — | 6.00823E-09 | 2.64797E-07 | 3.65237E-08 | — | — | — | — | — | 2.28273E-07 | 2.71788E-07 | 3.7488E-08 | — | — | — | — | — | 2.343E-07 | 0.005566916 |
| Uranium | U | — | — | — | 1.8184E-08 | 5.15245E-07 | 2.28998E-07 | — | — | — | — | — | 2.86247E-07 | 5.48067E-07 | 2.43585E-07 | — | — | — | — | — | 3.04482E-07 | 0.089354405 |
| Zinc | Zn | — | — | — | 8.20681E-06 | 0.049664197 | 0.001057186 | 0.047755119 | — | — | — | 0.000746174 | 0.000105719 | 0.001253393 | 0.001139449 | — | — | — | — | — | 0.000113945 | 0.103744576 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| Media | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.10792462 | 4.432859166 | — | — | — | 0.034631712 | 0.002698115 | 4.480863957 | 0.011930221 | 4.433994895 | — | — | — | 0.034640585 | 0.000298256 | 4.567717652 | 0.095968248 | 4.434704072 | — | — | — |
| Antimony | Sb | 1.02737E-05 | 0.001659803 | — | — | — | 0.000122044 | 1.28422E-06 | 0.003582624 | 0.00160069 | 0.001659803 | — | — | — | 0.000122044 | 0.000200086 | 0.006292493 | 0.001609582 | 0.004174747 | — | — | — |
| Arsenic | As | 6.38527E-06 | 0.000440833 | — | — | — | 0.000153067 | 4.43421E-06 | 0.003877608 | 0.001937926 | 0.000440833 | — | — | — | 0.000153067 | 0.001345782 | 0.008132669 | 0.00194327 | 0.003592507 | — | — | — |
| Cadmium | Cd | 1.62254E-06 | 0.010657494 | — | — | — | 7.01151E-06 | 3.24509E-07 | 0.006284933 | 0.000747337 | 0.005384586 | — | — | — | 3.54249E-06 | 0.000149467 | 0.007941201 | 0.00074875 | 0.007038071 | — | — | — |
| Cobalt | Co | 1.5876E-05 | 0.161157606 | — | — | — | 8.39363E-05 | 1.9845E-05 | 0.193297205 | 0.003634869 | 0.185022385 | — | — | — | 9.63658E-05 | 0.004543586 | 0.182082006 | 0.003647223 | 0.173785242 | — | — | — |
| Copper | Cu | 0.00015105 | 0.064315003 | — | — | — | 0.000200984 | 9.44063E-06 | 0.229251971 | 0.157642209 | 0.061564734 | — | — | — | 0.00019239 | 0.009852638 | 0.229386193 | 0.157768535 | 0.061564734 | — | — | — |
| Cyanide | CN- | — | 0.023178212 | — | — | — | 0.00018108 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | 0.023360075 | — | 0.023178989 | — | — | — |
| Lead | Pb | 7.81124E-05 | 0.049267653 | — | — | — | 0.000181131 | 4.33958E-05 | 0.049293317 | 0.006719111 | 0.038699091 | — | — | — | 0.000142276 | 0.00373284 | 0.051852645 | 0.006787688 | 0.041142758 | — | — | — |
| Mercury | Hg | 1.80954E-06 | 0.000276235 | — | — | — | 2.15809E-06 | 4.52386E-08 | 0.00096275 | 0.000627896 | 0.000316682 | — | — | — | 2.47408E-06 | 1.56974E-05 | 0.000964219 | 0.000629299 | 0.000316713 | — | — | — |
| Methyl-Mercury | Me-Hg | — | 0.000276235 | — | — | — | 2.15809E-06 | — | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 | — | 0.000319187 | — | 0.000316713 | — | — | — |
| Silver | Ag | 3.86395E-09 | 0.00183892 | — | — | — | 1.43666E-05 | 5.3666E-07 | 0.001900588 | 3.38135E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.69632E-05 | 0.001901081 | 3.41662E-07 | 0.00183892 | — | — | — |
| Thallium | Tl | 3.7488E-08 | 0.005523492 | — | — | — | 4.31523E-05 | 2.343E-07 | 0.005682651 | 1.6001E-05 | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100006 | 0.005682909 | 1.60365E-05 | 0.005523492 | — | — | — |
| Uranium | U | 2.43585E-07 | 0.088661191 | — | — | — | 0.000692666 | 3.04482E-07 | 0.089713889 | 0.000160015 | 0.088661191 | — | — | — | 0.000692666 | 0.000200018 | 0.089714372 | 0.000160229 | 0.088661191 | — | — | — |
| Zinc | Zn | 0.001139449 | 0.100914395 | — | — | — | 0.001576787 | 0.000113945 | 0.343951206 | 0.269303484 | 0.04698326 | — | — | — | 0.000734113 | 0.026930348 | 0.345807755 | 0.270278602 | 0.047755119 | — | — | — |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.034646126 | 0.002399206 | 4.579258216 | 0.10792462 | 4.433994895 | — | — | — | 0.034640585 | 0.002698115 | 4.578113613 | 0.10792462 | 4.432859166 | — | — | — | 0.034631712 | 0.002698115 | 4.468635481 | — | 4.433994895 |
| Antimony | Sb | 0.000306967 | 0.000201198 | 0.003593406 | 0.001610274 | 0.001659803 | — | — | — | 0.000122044 | 0.000201284 | 0.003593406 | 0.001610274 | 0.001659803 | — | — | — | 0.000122044 | 0.000201284 | 0.003581848 | 0.0016 | 0.001659803 |
| Arsenic | As | 0.001247398 | 0.001349493 | 0.003887547 | 0.001943791 | 0.000440833 | — | — | — | 0.000153067 | 0.001349855 | 0.003887547 | 0.001943791 | 0.000440833 | — | — | — | 0.000153067 | 0.001349855 | 0.003876727 | 0.001937406 | 0.000440833 |
| Cadmium | Cd | 4.63031E-06 | 0.00014975 | 0.006286755 | 0.000748855 | 0.005384586 | — | — | — | 3.54249E-06 | 0.000149771 | 0.011563132 | 0.000748855 | 0.010657494 | — | — | — | 7.01151E-06 | 0.000149771 | 0.006284808 | 0.000747232 | 0.005384586 |
| Cobalt | Co | 9.05131E-05 | 0.004559028 | 0.193328968 | 0.003648986 | 0.185022385 | — | — | — | 9.63658E-05 | 0.004561232 | 0.175117563 | 0.003648986 | 0.16682046 | — | — | — | 8.68857E-05 | 0.004561232 | 0.193293247 | 0.00363311 | 0.185022385 |
| Copper | Cu | 0.00019239 | 0.009860533 | 0.229399346 | 0.157780915 | 0.061564734 | — | — | — | 0.00019239 | 0.009861307 | 0.232158209 | 0.157780915 | 0.064315003 | — | — | — | 0.000200984 | 0.009861307 | 0.229238856 | 0.157629865 | 0.061564734 |
| Cyanide | CN- | 0.000181086 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | 0.023359292 | — | 0.023178212 | — | — | — | 0.00018108 | — | 0.023360075 | — | 0.023178989 |
| Lead | Pb | 0.00015126 | 0.003770938 | 0.049407418 | 0.006792461 | 0.038699091 | — | — | — | 0.000142276 | 0.00377359 | 0.060014835 | 0.006792461 | 0.049267653 | — | — | — | 0.000181131 | 0.00377359 | 0.049285909 | 0.006714349 | 0.038699091 |
| Mercury | Hg | 2.47432E-06 | 1.57325E-05 | 0.000964396 | 0.000629503 | 0.000316682 | — | — | — | 2.47408E-06 | 1.57376E-05 | 0.000923634 | 0.000629503 | 0.000276235 | — | — | — | 2.15809E-06 | 1.57376E-05 | 0.000962541 | 0.000627693 | 0.000316682 |
| Methyl-Mercury | Me-Hg | 2.47432E-06 | — | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 | — | 0.000278393 | — | 0.000276235 | — | — | — | 2.15809E-06 | — | 0.000319156 | — | 0.000316682 |
| Silver | Ag | 1.43666E-05 | 4.74531E-05 | 0.001901105 | 3.41831E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.74765E-05 | 0.001901105 | 3.41831E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.74765E-05 | 0.001900564 | 3.37967E-07 | 0.00183892 |
| Thallium | Tl | 4.31523E-05 | 0.000100228 | 0.005682916 | 1.60375E-05 | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100234 | 0.005682916 | 1.60375E-05 | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100234 | 0.005682644 | 0.000016 | 0.005523492 |
| Uranium | U | 0.000692666 | 0.000200286 | 0.089714405 | 0.000160244 | 0.088661191 | — | — | — | 0.000692666 | 0.000200304 | 0.089714405 | 0.000160244 | 0.088661191 | — | — | — | 0.000692666 | 0.000200304 | 0.089713857 | 0.00016 | 0.088661191 |
| Zinc | Zn | 0.000746174 | 0.02702786 | 0.345114324 | 0.270360865 | 0.04698326 | — | — | — | 0.000734113 | 0.027036086 | 0.399888133 | 0.270360865 | 0.100914395 | — | — | — | 0.001576787 | 0.027036086 | 0.343860931 | 0.269221416 | 0.04698326 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.034640585 | — | 0.012228476 | 0.011930221 | — | — | — | — | — | 0.000298256 | 0.098367454 | 0.095968248 | — | — | — | — | — | 0.002399206 |
| Antimony | Sb | — | — | — | 0.000122044 | 0.0002 | 7.76611E-07 | 6.90321E-07 | — | — | — | — | — | 8.62901E-08 | 0.004492493 | 9.5818E-06 | 0.004174747 | — | — | — | 0.000306967 | 1.19773E-06 |
| Arsenic | As | — | — | — | 0.000153067 | 0.001345421 | 8.80537E-07 | 5.19661E-07 | — | — | — | — | — | 3.60876E-07 | 0.004849842 | 5.86436E-06 | 0.003592507 | — | — | — | 0.001247398 | 4.07247E-06 |
| Cadmium | Cd | — | — | — | 3.54249E-06 | 0.000149446 | 1.25674E-07 | 1.04728E-07 | — | — | — | — | — | 2.09456E-08 | 0.007044523 | 1.51755E-06 | 0.007038071 | — | — | — | 4.63031E-06 | 3.03509E-07 |
| Cobalt | Co | — | — | — | 9.63658E-05 | 0.004541387 | 3.95763E-06 | 1.75895E-06 | — | — | — | — | — | 2.19868E-06 | 3.17543E-05 | 1.4113E-05 | — | — | — | — | — | 1.76413E-05 |
| Copper | Cu | — | — | — | 0.00019239 | 0.009851867 | 1.31156E-05 | 1.23441E-05 | — | — | — | — | — | 7.71508E-07 | 0.055180948 | 0.00013867 | 0.054862167 | — | — | — | 0.000171444 | 8.6669E-06 |
| Cyanide | CN- | — | — | — | 0.000181086 | — | — | — | — | — | — | — | — | — | 0.020849149 | — | 0.020687528 | — | — | — | 0.000161621 | — |
| Lead | Pb | — | — | — | 0.000142276 | 0.003730194 | 7.40786E-06 | 4.76219E-06 | — | — | — | — | — | 2.64566E-06 | 0.041408102 | 7.33394E-05 | 0.041142758 | — | — | — | 0.00015126 | 4.07441E-05 |
| Mercury | Hg | — | — | — | 2.47408E-06 | 1.56923E-05 | 2.08022E-07 | 2.02948E-07 | — | — | — | — | — | 5.07371E-09 | 1.64627E-06 | 1.60612E-06 | — | — | — | — | — | 4.01529E-08 |
| Methyl-Mercury | Me-Hg | — | — | — | 2.47408E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 1.43666E-05 | 4.69399E-05 | 2.35536E-08 | 1.68374E-10 | — | — | — | — | — | 2.33852E-08 | 5.16916E-07 | 3.69519E-09 | — | — | — | — | — | 5.13221E-07 |
| Thallium | Tl | — | — | — | 4.31523E-05 | 0.0001 | 6.96955E-09 | 9.61317E-10 | — | — | — | — | — | 6.00823E-09 | 2.64797E-07 | 3.65237E-08 | — | — | — | — | — | 2.28273E-07 |
| Uranium | U | — | — | — | 0.000692666 | 0.0002 | 3.27311E-08 | 1.45472E-08 | — | — | — | — | — | 1.8184E-08 | 5.15245E-07 | 2.28998E-07 | — | — | — | — | — | 2.86247E-07 |
| Zinc | Zn | — | — | — | 0.000734113 | 0.026922142 | 9.0275E-05 | 8.20681E-05 | — | — | — | — | — | 8.20681E-06 | 0.049664197 | 0.001057186 | 0.047755119 | — | — | — | 0.000746174 | 0.000105719 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| Phase | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.110622735 | 0.10792462 | — | — | — | — | — | 0.002698115 | 4.578113613 | 0.10792462 | 4.432859166 | — | — | — | 0.034631712 | 0.002698115 | 4.480863957 | 0.011930221 | 4.433994895 | — | — |
| Antimony | Sb | 1.15579E-05 | 1.02737E-05 | — | — | — | — | — | 1.28422E-06 | 0.001793406 | 1.02737E-05 | 0.001659803 | — | — | — | 0.000122044 | 1.28422E-06 | 0.003582624 | 0.00160069 | 0.001659803 | — | — |
| Arsenic | As | 1.08195E-05 | 6.38527E-06 | — | — | — | — | — | 4.43421E-06 | 0.00060472 | 6.38527E-06 | 0.000440833 | — | — | — | 0.000153067 | 4.43421E-06 | 0.003877608 | 0.001937926 | 0.000440833 | — | — |
| Cadmium | Cd | 1.94705E-06 | 1.62254E-06 | — | — | — | — | — | 3.24509E-07 | 0.010666453 | 1.62254E-06 | 0.010657494 | — | — | — | 7.01151E-06 | 3.24509E-07 | 0.006284933 | 0.000747337 | 0.005384586 | — | — |
| Cobalt | Co | 3.5721E-05 | 1.5876E-05 | — | — | — | — | — | 1.9845E-05 | 0.161277263 | 1.5876E-05 | 0.161157606 | — | — | — | 8.39363E-05 | 1.9845E-05 | 0.193297205 | 0.003634869 | 0.185022385 | — | — |
| Copper | Cu | 0.000160491 | 0.00015105 | — | — | — | — | — | 9.44063E-06 | 0.064676478 | 0.00015105 | 0.064315003 | — | — | — | 0.000200984 | 9.44063E-06 | 0.229251971 | 0.157642209 | 0.061564734 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.023359292 | — | 0.023178212 | — | — | — | 0.00018108 | — | 0.023360075 | — | 0.023178989 | — | — |
| Lead | Pb | 0.000121508 | 7.81124E-05 | — | — | — | — | — | 4.33958E-05 | 0.049570292 | 7.81124E-05 | 0.049267653 | — | — | — | 0.000181131 | 4.33958E-05 | 0.049293317 | 0.006719111 | 0.038699091 | — | — |
| Mercury | Hg | 1.85478E-06 | 1.80954E-06 | — | — | — | — | — | 4.52386E-08 | 0.000280248 | 1.80954E-06 | 0.000276235 | — | — | — | 2.15809E-06 | 4.52386E-08 | 0.00096275 | 0.000627896 | 0.000316682 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 0.000278393 | — | 0.000276235 | — | — | — | 2.15809E-06 | — | 0.000319156 | — | 0.000316682 | — | — |
| Silver | Ag | 5.40524E-07 | 3.86395E-09 | — | — | — | — | — | 5.3666E-07 | 0.001853827 | 3.86395E-09 | 0.00183892 | — | — | — | 1.43666E-05 | 5.3666E-07 | 0.001900588 | 3.38135E-07 | 0.00183892 | — | — |
| Thallium | Tl | 2.71788E-07 | 3.7488E-08 | — | — | — | — | — | 2.343E-07 | 0.005566916 | 3.7488E-08 | 0.005523492 | — | — | — | 4.31523E-05 | 2.343E-07 | 0.005682651 | 1.6001E-05 | 0.005523492 | — | — |
| Uranium | U | 5.48067E-07 | 2.43585E-07 | — | — | — | — | — | 3.04482E-07 | 0.089354405 | 2.43585E-07 | 0.088661191 | — | — | — | 0.000692666 | 3.04482E-07 | 0.089713889 | 0.000160015 | 0.088661191 | — | — |
| Zinc | Zn | 0.001253393 | 0.001139449 | — | — | — | — | — | 0.000113945 | 0.103744576 | 0.001139449 | 0.100914395 | — | — | — | 0.001576787 | 0.000113945 | 0.343951206 | 0.269303484 | 0.04698326 | — | — |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| Media | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) | Total Dose to Moose (mg/kg/d) | Dose to Moose from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.034640585 | 0.000298256 | 4.567717652 | 0.095968248 | 4.434704072 | — | — | — | 0.034646126 | 0.002399206 | 4.579258216 | 0.10792462 | 4.433994895 | — | — | — | 0.034640585 | 0.002698115 | 4.578113613 | 0.10792462 |
| Antimony | Sb | — | 0.000122044 | 0.000200086 | 0.006292493 | 0.001609582 | 0.004174747 | — | — | — | 0.000306967 | 0.000201198 | 0.003593406 | 0.001610274 | 0.001659803 | — | — | — | 0.000122044 | 0.000201284 | 0.003593406 | 0.001610274 |
| Arsenic | As | — | 0.000153067 | 0.001345782 | 0.008132669 | 0.00194327 | 0.003592507 | — | — | — | 0.001247398 | 0.001349493 | 0.003887547 | 0.001943791 | 0.000440833 | — | — | — | 0.000153067 | 0.001349855 | 0.003887547 | 0.001943791 |
| Cadmium | Cd | — | 3.54249E-06 | 0.000149467 | 0.007941201 | 0.00074875 | 0.007038071 | — | — | — | 4.63031E-06 | 0.00014975 | 0.006286755 | 0.000748855 | 0.005384586 | — | — | — | 3.54249E-06 | 0.000149771 | 0.011563132 | 0.000748855 |
| Cobalt | Co | — | 9.63658E-05 | 0.004543586 | 0.182082006 | 0.003647223 | 0.173785242 | — | — | — | 9.05131E-05 | 0.004559028 | 0.193328968 | 0.003648986 | 0.185022385 | — | — | — | 9.63658E-05 | 0.004561232 | 0.175117563 | 0.003648986 |
| Copper | Cu | — | 0.00019239 | 0.009852638 | 0.229386193 | 0.157768535 | 0.061564734 | — | — | — | 0.00019239 | 0.009860533 | 0.229399346 | 0.157780915 | 0.061564734 | — | — | — | 0.00019239 | 0.009861307 | 0.232158209 | 0.157780915 |
| Cyanide | CN- | — | 0.000181086 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | 0.023360075 | — | 0.023178989 | — | — | — | 0.000181086 | — | 0.023359292 | — |
| Lead | Pb | — | 0.000142276 | 0.00373284 | 0.051852645 | 0.006787688 | 0.041142758 | — | — | — | 0.00015126 | 0.003770938 | 0.049407418 | 0.006792461 | 0.038699091 | — | — | — | 0.000142276 | 0.00377359 | 0.060014835 | 0.006792461 |
| Mercury | Hg | — | 2.47408E-06 | 1.56974E-05 | 0.000964219 | 0.000629299 | 0.000316713 | — | — | — | 2.47432E-06 | 1.57325E-05 | 0.000964396 | 0.000629503 | 0.000316682 | — | — | — | 2.47408E-06 | 1.57376E-05 | 0.000923634 | 0.000629503 |
| Methyl-Mercury | Me-Hg | — | 2.47408E-06 | — | 0.000319187 | — | 0.000316713 | — | — | — | 2.47432E-06 | — | 0.000319156 | — | 0.000316682 | — | — | — | 2.47408E-06 | — | 0.000278393 | — |
| Silver | Ag | — | 1.43666E-05 | 4.69632E-05 | 0.001901081 | 3.41662E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.74531E-05 | 0.001901105 | 3.41831E-07 | 0.00183892 | — | — | — | 1.43666E-05 | 4.74765E-05 | 0.001901105 | 3.41831E-07 |
| Thallium | Tl | — | 4.31523E-05 | 0.000100006 | 0.005682909 | 1.60365E-05 | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100228 | 0.005682916 | 1.60375E-05 | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100234 | 0.005682916 | 1.60375E-05 |
| Uranium | U | — | 0.000692666 | 0.000200018 | 0.089714372 | 0.000160229 | 0.088661191 | — | — | — | 0.000692666 | 0.000200286 | 0.089714405 | 0.000160244 | 0.088661191 | — | — | — | 0.000692666 | 0.000200304 | 0.089714405 | 0.000160244 |
| Zinc | Zn | — | 0.000734113 | 0.026930348 | 0.345807755 | 0.270278602 | 0.047755119 | — | — | — | 0.000746174 | 0.02702786 | 0.345114324 | 0.270360865 | 0.04698326 | — | — | — | 0.000734113 | 0.027036086 | 0.399888133 | 0.270360865 |

## Table VI-2A Estimated Ecological Exposure Dose:Moose

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Moose from the consumption of Plant_3 (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of — (mg/kg/d) | Dose to Moose from the consumption of media_Water (dry) (mg/kg/d) | Dose to Moose from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 4.432859166 | — | — | — | 0.034631712 | 0.002698115 |
| Antimony | Sb | 0.001659803 | — | — | — | 0.000122044 | 0.000201284 |
| Arsenic | As | 0.000440833 | — | — | — | 0.000153067 | 0.001349855 |
| Cadmium | Cd | 0.010657494 | — | — | — | 7.01151E-06 | 0.000149771 |
| Cobalt | Co | 0.16682046 | — | — | — | 8.68857E-05 | 0.004561232 |
| Copper | Cu | 0.064315003 | — | — | — | 0.000200984 | 0.009861307 |
| Cyanide | CN- | 0.023178212 | — | — | — | 0.00018108 | — |
| Lead | Pb | 0.049267653 | — | — | — | 0.000181131 | 0.00377359 |
| Mercury | Hg | 0.000276235 | — | — | — | 2.15809E-06 | 1.57376E-05 |
| Methyl-Mercury | Me-Hg | 0.000276235 | — | — | — | 2.15809E-06 | — |
| Silver | Ag | 0.00183892 | — | — | — | 1.43666E-05 | 4.74765E-05 |
| Thallium | Tl | 0.005523492 | — | — | — | 4.31523E-05 | 0.000100234 |
| Uranium | U | 0.088661191 | — | — | — | 0.000692666 | 0.000200304 |
| Zinc | Zn | 0.100914395 | — | — | — | 0.001576787 | 0.027036086 |

## Table VI-2B Estimated Ecological Risk: Moose

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 2.315355171 | 0.231535517 | 139.8260695 | 13.98260695 | 139.831225 | 13.9831225 | 0.00515544 | 0.000515544 | 139.8260695 | 13.98260695 |
| Antimony | Sb | 0.028654781 | 0.002865478 | 0.13520981 | 0.013520981 | 0.169407785 | 0.016940779 | 0.0008 | 0.00008 | 0.13520981 | 0.013520981 |
| Arsenic | As | 0.029820977 | 0.002982098 | 0.146147146 | 0.014614715 | 0.18070489 | 0.018070489 | 0.006923077 | 0.000692308 | 0.146147146 | 0.014614715 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.026370157 | 0.021965142 | 0.011768188 | 0.009802366 | 0.011795473 | 0.009825093 | 2.72851E-05 | 2.27273E-05 | 0.011768188 | 0.009802366 |
| Copper | Cu | 0.019593065 | 0.015141272 | 0.022850545 | 0.017658611 | 0.027616542 | 0.021341713 | 7.69231E-05 | 5.94452E-05 | 0.022850545 | 0.017658611 |
| Cyanide | CN- | 0.000338552 | 0.000338552 | — | — | 0.001024457 | 0.001024457 | 0.000724638 | 0.000724638 | — | — |
| Lead | Pb | 0.006160739 | 0.000616074 | 0.020262843 | 0.002026284 | 0.025918188 | 0.002591819 | 0.0005125 | 0.00005125 | 0.020262843 | 0.002026284 |
| Mercury | Hg | 0.000962541 | 0.000962541 | 0.004505877 | 0.004505877 | 0.004595877 | 0.004595877 | 0.00009 | 0.00009 | 0.004505877 | 0.004505877 |
| Methyl-Mercury | Me-Hg | 0.00997362 | 0.001994724 | — | — | 0.0028125 | 0.0005625 | 0.0028125 | 0.0005625 | — | — |
| Silver | Ag | 0.000315708 | 3.15708E-05 | 8.53085E-05 | 8.53085E-06 | 8.57238E-05 | 8.57238E-06 | 4.15282E-07 | 4.15282E-08 | 8.53085E-05 | 8.53085E-06 |
| Thallium | Tl | 0.767924907 | 0.076792491 | 0.018717156 | 0.001871716 | 4.356554994 | 0.435655499 | 4.337837838 | 0.433783784 | 0.018717156 | 0.001871716 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.002149131 | 0.001074565 | 0.012207328 | 0.006103664 | 0.012518298 | 0.006259149 | 0.0000125 | 0.00000625 | 0.012207328 | 0.006103664 |

## Table VI-2B Estimated Ecological Risk: Moose

| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure |

| Parameter | Symbol | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) | Risk to Moose (NOAELm) | Risk to Moose (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 3.429091307 | 0.342909131 | 142.1414247 | 14.21414247 | 142.1289991 | 14.21289991 | 142.1414247 | 14.21414247 | 3.429091307 | 0.342909131 |
| Antimony | Sb | 0.015524517 | 0.001552452 | 0.149464591 | 0.014946459 | 0.169407785 | 0.016940779 | 0.149464591 | 0.014946459 | 0.029924517 | 0.002992452 |
| Arsenic | As | 0.005647182 | 0.000564718 | 0.15071561 | 0.015071561 | 0.18070489 | 0.018070489 | 0.15071561 | 0.015071561 | 0.030899696 | 0.00308997 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.022088288 | 0.01839854 | 0.037023133 | 0.030838587 | 0.035504237 | 0.029573416 | 0.037023133 | 0.030838587 | 0.023976057 | 0.019970966 |
| Copper | Cu | 0.005784243 | 0.00446999 | 0.028128932 | 0.021737682 | 0.028189411 | 0.021784419 | 0.028128932 | 0.021737682 | 0.020098921 | 0.015532191 |
| Cyanide | CN- | 0.000339539 | 0.000339539 | 0.000338552 | 0.000338552 | 0.001060565 | 0.001060565 | 0.000338552 | 0.000338552 | 0.000339539 | 0.000339539 |
| Lead | Pb | 0.006480382 | 0.000648038 | 0.025118014 | 0.002511801 | 0.025918188 | 0.002591819 | 0.025118014 | 0.002511801 | 0.00778595 | 0.000778595 |
| Mercury | Hg | 0.000322848 | 0.000322848 | 0.004825032 | 0.004825032 | 0.004912589 | 0.004912589 | 0.004825032 | 0.004825032 | 0.000966234 | 0.000966234 |
| Methyl-Mercury | Me-Hg | 0.008944856 | 0.001788971 | 0.00997362 | 0.001994724 | 0.012709775 | 0.002541955 | 0.00997362 | 0.001994724 | 0.008944856 | 0.001788971 |
| Silver | Ag | 0.000307988 | 3.07988E-05 | 0.000393163 | 3.93163E-05 | 0.000391192 | 3.91192E-05 | 0.000393163 | 3.93163E-05 | 0.000315842 | 3.15842E-05 |
| Thallium | Tl | 0.749132521 | 0.074913252 | 0.770966387 | 0.077096639 | 5.102972836 | 0.510297284 | 0.770966387 | 0.077096639 | 0.764808197 | 0.07648082 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000791029 | 0.000395514 | 0.012505562 | 0.006252781 | 0.012518298 | 0.006259149 | 0.012505562 | 0.006252781 | 0.002641926 | 0.001320963 |

## Table VI-2B Estimated Ecological Risk: Moose

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure |

| **Parameter** | **Symbol** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 2.315355171 | 0.231535517 | 0.006335998 | 0.0006336 | 0.050967593 | 0.005096759 | 0.057317479 | 0.005731748 | 2.372079592 | 0.237207959 |
| Antimony | Sb | 0.028654781 | 0.002865478 | 6.21289E-06 | 6.21289E-07 | 0.035939945 | 0.003593995 | 9.24635E-05 | 9.24635E-06 | 0.014347244 | 0.001434724 |
| Arsenic | As | 0.029820977 | 0.002982098 | 6.77336E-06 | 6.77336E-07 | 0.037306475 | 0.003730647 | 8.32267E-05 | 8.32267E-06 | 0.00465169 | 0.000465169 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.026370157 | 0.021965142 | 5.39922E-07 | 4.49731E-07 | 4.3321E-06 | 3.60844E-06 | 4.87326E-06 | 4.05921E-06 | 0.022002355 | 0.018326962 |
| Copper | Cu | 0.019593065 | 0.015141272 | 1.12099E-06 | 8.6629E-07 | 0.00471632 | 0.003644713 | 1.37172E-05 | 1.06004E-05 | 0.005527904 | 0.004271894 |
| Cyanide | CN- | 0.000338552 | 0.000338552 | — | — | 0.000302162 | 0.000302162 | — | — | 0.00033854 | 0.00033854 |
| Lead | Pb | 0.006160739 | 0.000616074 | 9.25982E-07 | 9.25982E-08 | 0.005176013 | 0.000517601 | 1.51885E-05 | 1.51885E-06 | 0.006196286 | 0.000619629 |
| Mercury | Hg | 0.000962541 | 0.000962541 | 2.08022E-07 | 2.08022E-07 | 1.64627E-06 | 1.64627E-06 | 1.85478E-06 | 1.85478E-06 | 0.000280248 | 0.000280248 |
| Methyl-Mercury | Me-Hg | 0.00997362 | 0.001994724 | — | — | — | — | — | — | 0.008699796 | 0.001739959 |
| Silver | Ag | 0.000315708 | 3.15708E-05 | 3.91256E-09 | 3.91256E-10 | 8.58665E-08 | 8.58665E-09 | 8.97881E-08 | 8.97881E-09 | 0.000307945 | 3.07945E-05 |
| Thallium | Tl | 0.767924907 | 0.076792491 | 9.41831E-07 | 9.41831E-08 | 3.57834E-05 | 3.57834E-06 | 3.67281E-05 | 3.67281E-06 | 0.752285959 | 0.075228596 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.002149131 | 0.001074565 | 5.64219E-07 | 2.82109E-07 | 0.000310401 | 0.000155201 | 7.83371E-06 | 3.91685E-06 | 0.000648404 | 0.000324202 |

## Table VI-2B Estimated Ecological Risk: Moose

| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline |

| **Parameter** | **Symbol** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 2.321691169 | 0.232169117 | 2.366693084 | 0.236669308 | 2.372672651 | 0.237267265 | 2.372079592 | 0.237207959 | 2.315355171 | 0.231535517 |
| Antimony | Sb | 0.028660994 | 0.002866099 | 0.050339945 | 0.005033995 | 0.028747244 | 0.002874724 | 0.028747244 | 0.002874724 | 0.028654781 | 0.002865478 |
| Arsenic | As | 0.029827751 | 0.002982775 | 0.062558989 | 0.006255899 | 0.029904204 | 0.00299042 | 0.029904204 | 0.00299042 | 0.029820977 | 0.002982098 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.026370696 | 0.021965591 | 0.024840656 | 0.020691137 | 0.02637503 | 0.021969201 | 0.023890527 | 0.019899723 | 0.026370157 | 0.021965142 |
| Copper | Cu | 0.019594186 | 0.015142138 | 0.019605658 | 0.015151003 | 0.019606782 | 0.015151872 | 0.019842582 | 0.015334096 | 0.019593065 | 0.015141272 |
| Cyanide | CN- | 0.000338552 | 0.000338552 | 0.000338552 | 0.000338552 | 0.000338552 | 0.000338552 | 0.00033854 | 0.00033854 | 0.000338552 | 0.000338552 |
| Lead | Pb | 0.006161665 | 0.000616166 | 0.006481581 | 0.000648158 | 0.006175927 | 0.000617593 | 0.007501854 | 0.000750185 | 0.006160739 | 0.000616074 |
| Mercury | Hg | 0.00096275 | 0.00096275 | 0.000964219 | 0.000964219 | 0.000964396 | 0.000964396 | 0.000923634 | 0.000923634 | 0.000962541 | 0.000962541 |
| Methyl-Mercury | Me-Hg | 0.00997362 | 0.001994724 | 0.009974598 | 0.00199492 | 0.00997362 | 0.001994724 | 0.008699796 | 0.001739959 | 0.00997362 | 0.001994724 |
| Silver | Ag | 0.000315712 | 3.15712E-05 | 0.000315794 | 3.15794E-05 | 0.000315798 | 3.15798E-05 | 0.000315798 | 3.15798E-05 | 0.000315708 | 3.15708E-05 |
| Thallium | Tl | 0.767925849 | 0.076792585 | 0.76796069 | 0.076796069 | 0.767961635 | 0.076796163 | 0.767961635 | 0.076796163 | 0.767924907 | 0.076792491 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.002149695 | 0.001074848 | 0.002161298 | 0.001080649 | 0.002156965 | 0.001078482 | 0.002499301 | 0.00124965 | 0.002149131 | 0.001074565 |

## Table VI-2B Estimated Ecological Risk: Moose

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |

| **Parameter** | **Symbol** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.006335998 | 0.0006336 | 0.050967593 | 0.005096759 | 0.057317479 | 0.005731748 | 2.372079592 | 0.237207959 | 2.321691169 | 0.232169117 |
| Antimony | Sb | 6.21289E-06 | 6.21289E-07 | 0.035939945 | 0.003593995 | 9.24635E-05 | 9.24635E-06 | 0.014347244 | 0.001434724 | 0.028660994 | 0.002866099 |
| Arsenic | As | 6.77336E-06 | 6.77336E-07 | 0.037306475 | 0.003730647 | 8.32267E-05 | 8.32267E-06 | 0.00465169 | 0.000465169 | 0.029827751 | 0.002982775 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 5.39922E-07 | 4.49731E-07 | 4.3321E-06 | 3.60844E-06 | 4.87326E-06 | 4.05921E-06 | 0.022002355 | 0.018326962 | 0.026370696 | 0.021965591 |
| Copper | Cu | 1.12099E-06 | 8.6629E-07 | 0.00471632 | 0.003644713 | 1.37172E-05 | 1.06004E-05 | 0.005527904 | 0.004271894 | 0.019594186 | 0.015142138 |
| Cyanide | CN- | — | — | 0.000302162 | 0.000302162 | — | — | 0.00033854 | 0.00033854 | 0.000338552 | 0.000338552 |
| Lead | Pb | 9.25982E-07 | 9.25982E-08 | 0.005176013 | 0.000517601 | 1.51885E-05 | 1.51885E-06 | 0.006196286 | 0.000619629 | 0.006161665 | 0.000616166 |
| Mercury | Hg | 2.08022E-07 | 2.08022E-07 | 1.64627E-06 | 1.64627E-06 | 1.85478E-06 | 1.85478E-06 | 0.000280248 | 0.000280248 | 0.00096275 | 0.00096275 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | 0.008699796 | 0.001739959 | 0.00997362 | 0.001994724 |
| Silver | Ag | 3.91256E-09 | 3.91256E-10 | 8.58665E-08 | 8.58665E-09 | 8.97881E-08 | 8.97881E-09 | 0.000307945 | 3.07945E-05 | 0.000315712 | 3.15712E-05 |
| Thallium | Tl | 9.41831E-07 | 9.41831E-08 | 3.57834E-05 | 3.57834E-06 | 3.67281E-05 | 3.67281E-06 | 0.752285959 | 0.075228596 | 0.767925849 | 0.076792585 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 5.64219E-07 | 2.82109E-07 | 0.000310401 | 0.000155201 | 7.83371E-06 | 3.91685E-06 | 0.000648404 | 0.000324202 | 0.002149695 | 0.001074848 |

## Table VI-2B Estimated Ecological Risk: Moose

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure |

| **Parameter** | **Symbol** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** | **Risk to Moose (NOAELm)** | **Risk to Moose (LOAELm)** |
|---|---|---|---|---|---|
| Aluminum | Al | 2.366693084 | 0.236669308 | 2.372672651 | 0.237267265 |
| Antimony | Sb | 0.050339945 | 0.005033995 | 0.028747244 | 0.002874724 |
| Arsenic | As | 0.062558989 | 0.006255899 | 0.029904204 | 0.00299042 |
| Cadmium | Cd | — | — | — | — |
| Cobalt | Co | 0.024840656 | 0.020691137 | 0.02637503 | 0.021969201 |
| Copper | Cu | 0.019605658 | 0.015151003 | 0.019606782 | 0.015151872 |
| Cyanide | CN- | 0.000338552 | 0.000338552 | 0.000338552 | 0.000338552 |
| Lead | Pb | 0.006481581 | 0.000648158 | 0.006175927 | 0.000617593 |
| Mercury | Hg | 0.000964219 | 0.000964219 | 0.000964396 | 0.000964396 |
| Methyl-Mercury | Me-Hg | 0.009974598 | 0.00199492 | 0.00997362 | 0.001994724 |
| Silver | Ag | 0.000315794 | 3.15794E-05 | 0.000315798 | 3.15798E-05 |
| Thallium | Tl | 0.76796069 | 0.076796069 | 0.767961635 | 0.076796163 |
| Uranium | U | — | — | — | — |
| Zinc | Zn | 0.002161298 | 0.001080649 | 0.002156965 | 0.001078482 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.117778103 | — | — | 1.13812E-07 | — | — | 0.117777989 | — | 533.4592592 | 139.8686994 | 281.6955606 | 3.96151E-05 | — | — | — | 111.8949595 | 533.4930893 | 139.8686994 | 281.6955606 | 3.96478E-05 | — |
| Antimony | Sb | 0.166164952 | 0.00085 | 0.1615 | 1.17989E-09 | — | — | 0.000414951 | 0.0034 | 1.556321258 | 0.007981135 | 1.516415577 | 8.56861E-09 | — | — | — | 0.031924538 | 1.556661258 | 0.007981135 | 1.516415577 | 8.78764E-09 | — |
| Arsenic | As | 0.304720084 | 0.001029247 | 0.280298248 | 6.099E-09 | — | — | 0.000520428 | 0.022872154 | 1.760534078 | 0.005956694 | 1.622206372 | 3.14168E-08 | — | — | — | 0.132370981 | 1.763594082 | 0.005956694 | 1.622206372 | 3.53594E-08 | — |
| Cadmium | Cd | 2.067147477 | 0.000396967 | 2.064197874 | 9.13323E-10 | — | — | 1.20445E-05 | 0.00254059 | 6.121000525 | 0.001175461 | 6.112302113 | 2.70169E-09 | — | — | — | 0.007522949 | 6.121340525 | 0.001175461 | 6.112302113 | 2.72797E-09 | — |
| Cobalt | Co | 0.526856208 | 0.00193009 | 0.447394748 | 1.46329E-07 | — | — | 0.000327644 | 0.07720358 | 5.55615654 | 0.020367137 | 4.721102413 | 1.49958E-06 | — | — | — | 0.81468549 | 5.556836549 | 0.020367137 | 4.721102413 | 1.50834E-06 | — |
| Copper | Cu | 6.250235401 | 0.083740866 | 5.998358208 | 4.70194E-07 | — | — | 0.000654125 | 0.167481731 | 9.976217306 | 0.133675688 | 9.575189499 | 7.43845E-07 | — | — | — | 0.267351375 | 9.979277325 | 0.133675688 | 9.575189499 | 7.63558E-07 | — |
| Cyanide | CN- | 0.000615695 | — | — | 2.77648E-09 | — | — | 0.000615692 | — | — | — | — | — | — | — | — | — | 0.170000767 | — | — | 7.6662E-07 | — |
| Lead | Pb | 10.13400766 | 0.003566998 | 10.06654362 | 1.22839E-08 | — | — | 0.000483739 | 0.063413296 | 157.2756269 | 0.055360981 | 156.2360705 | 1.892E-07 | — | — | — | 0.984195222 | 157.2895669 | 0.055360981 | 156.2360705 | 1.91894E-07 | — |
| Mercury | Hg | 0.066893568 | 0.000333462 | 0.066284922 | 3.02563E-09 | — | — | 8.41186E-06 | 0.00026677 | 0.468422435 | 0.002335363 | 0.464218761 | 2.08101E-08 | — | — | — | 0.00186829 | 0.468728437 | 0.002335363 | 0.464218761 | 2.27814E-08 | — |
| Methyl-Mercury | Me-Hg | 8.41186E-06 | — | — | 4.22688E-12 | — | — | 8.41186E-06 | — | — | — | — | — | — | — | — | — | 0.000306 | — | — | 1.53762E-10 | — |
| Silver | Ag | 0.078360553 | 1.79545E-07 | 0.077513548 | 1.13859E-09 | — | — | 4.88463E-05 | 0.000797978 | 0.85066431 | 1.95031E-06 | 0.841994282 | 1.13426E-08 | — | — | — | 0.008668066 | 0.85067281 | 1.95031E-06 | 0.841994282 | 1.1359E-08 | — |
| Thallium | Tl | 0.166989 | 0.0000085 | 0.16513375 | 3.21784E-08 | — | — | 0.000146718 | 0.0017 | 0.199213931 | 1.01492E-05 | 0.197173905 | 3.39076E-08 | — | — | — | 0.002029843 | 0.308356743 | 1.01492E-05 | 0.197173905 | 2.84631E-06 | — |
| Uranium | U | 0.336107563 | 0.000085 | 0.3302675 | 2.67595E-10 | — | — | 0.002355063 | 0.0034 | 0.625640178 | 0.000159338 | 0.619107325 | 2.42473E-10 | — | — | — | 0.006373515 | 0.626490178 | 0.000159338 | 0.619107325 | 2.9237E-10 | — |
| Zinc | Zn | 31.47346997 | 0.143023877 | 30.87027368 | 1.51627E-08 | — | — | 0.002495986 | 0.457676407 | 207.5623098 | 0.943293536 | 203.6004768 | 9.90486E-08 | — | — | — | 3.018539316 | 207.5691098 | 0.943293536 | 203.6004768 | 9.94429E-08 | — |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.03383 | 111.8949595 | 533.4592592 | 139.8686994 | 281.6955606 | 3.96151E-05 | — | — | — | 111.8949595 | 4.325143614 | 1.130674694 | 2.277178833 | 3.32562E-07 | — | — | 0.01275 | 0.904539755 | 533.5770373 | 139.8686994 |
| Antimony | Sb | — | 0.00034 | 0.031924538 | 1.556321258 | 0.007981135 | 1.516415577 | 8.56861E-09 | — | — | — | 0.031924538 | 0.020645847 | 0.000104852 | 0.019921933 | 2.4119E-10 | — | — | 0.000199652 | 0.000419409 | 1.556736209 | 0.007981135 |
| Arsenic | As | — | 0.00306 | 0.132370981 | 1.760534078 | 0.005956694 | 1.622206372 | 3.14168E-08 | — | — | — | 0.132370981 | 0.019712182 | 6.57332E-05 | 0.01790133 | 7.13099E-10 | — | — | 0.000284382 | 0.001460737 | 1.761054507 | 0.005956694 |
| Cadmium | Cd | — | 0.00034 | 0.007522949 | 6.121000525 | 0.001175461 | 6.112302113 | 2.70169E-09 | — | — | — | 0.007522949 | 0.08612524 | 1.65327E-05 | 0.085968898 | 4.06273E-11 | — | — | 0.000034 | 0.00010581 | 6.12101257 | 0.001175461 |
| Cobalt | Co | — | 0.00068 | 0.81468549 | 5.55615654 | 0.020367137 | 4.721102413 | 1.49558E-06 | — | — | — | 0.81468549 | 0.045533513 | 0.000166351 | 0.038560116 | 1.42193E-08 | — | — | 0.000153 | 0.006654032 | 5.556484188 | 0.020367137 |
| Copper | Cu | — | 0.00306 | 0.267351375 | 9.976217306 | 0.133675688 | 9.575189499 | 7.43845E-07 | — | — | — | 0.267351375 | 0.116923695 | 0.001555322 | 0.111407715 | 1.41305E-08 | — | — | 0.00085 | 0.003110644 | 9.976871435 | 0.133675688 |
| Cyanide | CN- | — | 0.17 | — | — | — | — | — | — | — | — | — | 0.000850004 | — | — | 3.8331E-09 | — | — | 0.00085 | — | 0.000615695 | — |
| Lead | Pb | — | 0.01394 | 0.984195222 | 157.2756269 | 0.055360981 | 156.2360705 | 1.892E-07 | — | — | — | 0.984195222 | 2.257007764 | 0.000794167 | 2.24124507 | 2.87839E-09 | — | — | 0.00085 | 0.014118524 | 157.2761106 | 0.055360981 |
| Mercury | Hg | — | 0.000306 | 0.00186829 | 0.468422435 | 0.002335363 | 0.464218761 | 2.08101E-08 | — | — | — | 0.00186829 | 0.003840177 | 1.8976E-05 | 0.00377202 | 3.88127E-10 | — | — | 0.000034 | 1.51808E-05 | 0.468430847 | 0.002335363 |
| Methyl-Mercury | Me-Hg | — | 0.000306 | — | — | — | — | — | — | — | — | — | 3.4E-05 | — | — | 1.70847E-11 | — | — | 0.000034 | — | 8.41186E-06 | — |
| Silver | Ag | — | 0.0000085 | 0.008668066 | 0.85066431 | 1.95031E-06 | 0.841994282 | 1.13426E-08 | — | — | — | 0.008668066 | 0.016968503 | 3.88652E-08 | 0.01677895 | 2.5846E-10 | — | — | 1.678E-05 | 0.000172734 | 0.850713157 | 1.95031E-06 |
| Thallium | Tl | — | 0.10914 | 0.002029843 | 0.199213931 | 1.01492E-05 | 0.197173905 | 3.39076E-08 | — | — | — | 0.002029843 | 0.007369951 | 3.72874E-07 | 0.007244001 | 2.55994E-09 | — | — | 0.000051 | 7.45747E-05 | 0.199360653 | 1.01492E-05 |
| Uranium | U | — | 0.00085 | 0.006373515 | 0.625640178 | 0.000159338 | 0.619107325 | 2.42473E-10 | — | — | — | 0.006373515 | 0.010566738 | 2.47466E-06 | 0.009615277 | 5.36622E-11 | — | — | 0.00085 | 9.89863E-05 | 0.627995241 | 0.000159338 |
| Zinc | Zn | — | 0.0068 | 3.018539316 | 207.5623098 | 0.943293536 | 203.6004768 | 9.90486E-08 | — | — | — | 3.018539316 | 2.571526284 | 0.011663453 | 2.517439778 | 1.52039E-09 | — | — | 0.0051 | 0.037323051 | 207.5648058 | 0.943293536 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 281.6955606 | 3.97289E-05 | — | — | 0.117777989 | 111.8949595 | 533.4930893 | 139.8686994 | 281.6955606 | 3.96478E-05 | — | — | 0.03383 | 111.8949595 | 533.5770373 | 139.8686994 | 281.6955606 | 3.97289E-05 | — | — | 0.117777989 |
| Antimony | Sb | 1.516415577 | 8.83593E-09 | — | — | 0.000414951 | 0.031924538 | 1.556661258 | 0.007981135 | 1.516415577 | 8.78764E-09 | — | — | 0.00034 | 0.031924538 | 1.556736209 | 0.007981135 | 1.516415577 | 8.83593E-09 | — | — | 0.000414951 |
| Arsenic | As | 1.622206372 | 3.20874E-08 | — | — | 0.000520428 | 0.132370981 | 1.763594082 | 0.005956694 | 1.622206372 | 3.53594E-08 | — | — | 0.00306 | 0.132370981 | 1.761054507 | 0.005956694 | 1.622206372 | 3.20874E-08 | — | — | 0.000520428 |
| Cadmium | Cd | 6.112302113 | 2.70262E-09 | — | — | 1.20445E-05 | 0.007522949 | 6.121340525 | 0.001175461 | 6.112302113 | 2.72797E-09 | — | — | 0.00034 | 0.007522949 | 6.12101257 | 0.001175461 | 6.112302113 | 2.70262E-09 | — | — | 1.20445E-05 |
| Cobalt | Co | 4.721102413 | 1.5038E-06 | — | — | 0.000327644 | 0.81468549 | 5.556836549 | 0.020367137 | 4.721102413 | 1.50834E-06 | — | — | 0.00068 | 0.81468549 | 5.556484188 | 0.020367137 | 4.721102413 | 1.5038E-06 | — | — | 0.000327644 |
| Copper | Cu | 9.575189499 | 7.48059E-07 | — | — | 0.000654125 | 0.267351375 | 9.979277325 | 0.133675688 | 9.575189499 | 7.63558E-07 | — | — | 0.00306 | 0.267351375 | 9.976871435 | 0.133675688 | 9.575189499 | 7.48059E-07 | — | — | 0.000654125 |
| Cyanide | CN- | — | 2.77648E-09 | — | — | 0.000615692 | — | 0.170000767 | — | — | 7.6662E-07 | — | — | 0.17 | — | 0.000615695 | — | — | 2.77648E-09 | — | — | 0.000615692 |
| Lead | Pb | 156.2360705 | 1.89293E-07 | — | — | 0.000483739 | 0.984195222 | 157.2895669 | 0.055360981 | 156.2360705 | 1.91894E-07 | — | — | 0.01394 | 0.984195222 | 157.2761106 | 0.055360981 | 156.2360705 | 1.89293E-07 | — | — | 0.000483739 |
| Mercury | Hg | 0.464218761 | 2.08643E-08 | — | — | 8.41186E-06 | 0.00186829 | 0.468728437 | 0.002335363 | 0.464218761 | 2.27814E-08 | — | — | 0.000306 | 0.00186829 | 0.468430847 | 0.002335363 | 0.464218761 | 2.08643E-08 | — | — | 8.41186E-06 |
| Methyl-Mercury | Me-Hg | — | 4.22688E-12 | — | — | 8.41186E-06 | — | 0.000306 | — | — | 1.53762E-10 | — | — | 0.000306 | — | 8.41186E-06 | — | — | 4.22688E-12 | — | — | 8.41186E-06 |
| Silver | Ag | 0.841994282 | 1.1437E-08 | — | — | 4.88463E-05 | 0.008668066 | 0.85067281 | 1.95031E-06 | 0.841994282 | 1.1359E-08 | — | — | 0.0000085 | 0.008668066 | 0.850713157 | 1.95031E-06 | 0.841994282 | 1.1437E-08 | — | — | 4.88463E-05 |
| Thallium | Tl | 0.197173905 | 3.76883E-08 | — | — | 0.000146718 | 0.002029843 | 0.308356743 | 1.01492E-05 | 0.197173905 | 2.84631E-06 | — | — | 0.10914 | 0.002029843 | 0.199360653 | 1.01492E-05 | 0.197173905 | 3.76883E-08 | — | — | 0.000146718 |
| Uranium | U | 0.619107325 | 3.80719E-10 | — | — | 0.002355063 | 0.006373515 | 0.626490178 | 0.000159338 | 0.619107325 | 2.9237E-10 | — | — | 0.00085 | 0.006373515 | 0.627995241 | 0.000159338 | 0.619107325 | 3.80719E-10 | — | — | 0.002355063 |
| Zinc | Zn | 203.6004768 | 9.91934E-08 | — | — | 0.002495986 | 3.018539316 | 207.5691098 | 0.943293536 | 203.6004768 | 9.94429E-08 | — | — | 0.0068 | 3.018539316 | 207.5648058 | 0.943293536 | 203.6004768 | 9.91934E-08 | — | — | 0.002495986 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Common Shrew from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 111.8949595 | 4.325143614 | 1.130674694 | 2.277178833 | 3.32562E-07 | — | — | 0.01275 | 0.904539755 | 0.117778103 | — | — | 1.13812E-07 | — | — | 0.117777989 | — | 0.024172866 | 0.00633793 | 0.012764591 | 1.7951E-09 |
| Antimony | Sb | 0.031924538 | 0.186395848 | 0.000954852 | 0.181421933 | 1.15376E-09 | — | — | 0.000199652 | 0.003819409 | 0.166164952 | 0.00085 | 0.1615 | 1.17989E-09 | — | — | 0.000414951 | 0.0034 | 7.15129E-05 | 3.66733E-07 | 6.96793E-05 | 3.93727E-13 |
| Arsenic | As | 0.132370981 | 0.323911837 | 0.00109498 | 0.298199578 | 6.14156E-09 | — | — | 0.000284382 | 0.024332891 | 0.304720084 | 0.001029247 | 0.280298248 | 6.099E-09 | — | — | 0.000520428 | 0.022872154 | 8.1594E-05 | 2.7607E-07 | 7.5183E-05 | 1.45605E-12 |
| Cadmium | Cd | 0.007522949 | 2.153260673 | 0.0004135 | 2.150166772 | 9.53019E-10 | — | — | 0.000034 | 0.0026464 | 2.067147477 | 0.000396967 | 2.064197874 | 9.13323E-10 | — | — | 1.20445E-05 | 0.00254059 | 0.000289719 | 5.56368E-08 | 0.000289307 | 1.27876E-13 |
| Cobalt | Co | 0.81468549 | 0.572062073 | 0.00209644 | 0.485954864 | 1.56327E-07 | — | — | 0.000153 | 0.083857612 | 0.526856208 | 0.00193009 | 0.447394748 | 1.46329E-07 | — | — | 0.000327644 | 0.07720358 | 0.000254916 | 9.34441E-07 | 0.000216603 | 6.88004E-11 |
| Copper | Cu | 0.267351375 | 6.366504966 | 0.085296188 | 6.109765923 | 4.80111E-07 | — | — | 0.00085 | 0.170592375 | 6.250235401 | 0.083740866 | 5.998358208 | 4.70194E-07 | — | — | 0.000654125 | 0.167481731 | 0.00048941 | 6.55782E-06 | 0.000469736 | 3.64913E-11 |
| Cyanide | CN- | — | 0.000850004 | — | — | 3.8331E-09 | — | — | 0.00085 | — | 0.000615695 | — | — | 2.77648E-09 | — | — | 0.000615692 | — | — | — | — | — | — |
| Lead | Pb | 0.984195222 | 12.39053169 | 0.004361165 | 12.30778869 | 1.50688E-08 | — | — | 0.00085 | 0.07753182 | 10.13400766 | 0.003566998 | 10.06654362 | 1.22839E-08 | — | — | 0.000483739 | 0.063413296 | 0.007187265 | 2.52992E-06 | 0.007139758 | 8.64615E-12 |
| Mercury | Hg | 0.00186829 | 0.070725334 | 0.000352438 | 0.070056942 | 3.35956E-09 | — | — | 0.000034 | 0.00028195 | 0.066893568 | 0.000333462 | 0.066284922 | 3.02563E-09 | — | — | 8.41186E-06 | 0.00026677 | 2.16256E-05 | 1.07816E-07 | 2.14315E-05 | 9.60737E-13 |
| Methyl-Mercury | Me-Hg | — | 3.4E-05 | — | — | 1.70847E-11 | — | — | 0.000034 | — | 8.41186E-06 | — | — | 4.22688E-12 | — | — | 8.41186E-06 | — | — | — | — | — | — |
| Silver | Ag | 0.008668066 | 0.09528021 | 2.1841E-07 | 0.094292498 | 1.30265E-09 | — | — | 1.678E-05 | 0.000970712 | 0.078360553 | 1.79545E-07 | 0.077513548 | 1.13859E-09 | — | — | 4.88463E-05 | 0.000797978 | 3.90146E-05 | 8.94486E-11 | 3.86169E-05 | 5.20211E-13 |
| Thallium | Tl | 0.002029843 | 0.174212229 | 8.87287E-06 | 0.172377751 | 3.09576E-08 | — | — | 0.000051 | 0.001774575 | 0.166989 | 0.0000085 | 0.16513375 | 3.21784E-08 | — | — | 0.000146718 | 0.0017 | 1.00243E-05 | 5.107E-10 | 9.92162E-06 | 1.7062E-12 |
| Uranium | U | 0.006373515 | 0.344319238 | 8.74747E-05 | 0.339882777 | 1.83011E-10 | — | — | 0.00085 | 0.003498986 | 0.336107563 | 0.000085 | 0.3302675 | 2.67595E-10 | — | — | 0.002355063 | 0.0034 | 3.03447E-05 | 7.72818E-09 | 3.00279E-05 | 1.17604E-14 |
| Zinc | Zn | 3.018539316 | 34.04250027 | 0.154687331 | 33.38771346 | 1.65383E-08 | — | — | 0.0051 | 0.494999458 | 31.47346997 | 0.143023877 | 30.87027368 | 1.51627E-08 | — | — | 0.002495986 | 0.457676407 | 0.009593459 | 4.35987E-05 | 0.009410344 | 4.57799E-12 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.005070344 | 0.194449679 | 0.050983132 | 0.102680027 | 1.444E-08 | — | — | — | 0.040786505 | 0.218675532 | 0.057334954 | 0.115472598 | 1.6239E-08 | — | — | — | 0.045867963 | 0.336423467 |
| Antimony | Sb | — | — | — | 1.46693E-06 | 0.002036302 | 5.09033E-06 | 0.000967163 | 6.77828E-10 | — | — | 0.001043687 | 2.03613E-05 | 0.001064294 | 5.45792E-06 | 0.001037004 | 5.85966E-12 | — | — | — | 2.18317E-05 | 0.001479245 |
| Arsenic | As | — | — | — | 6.13489E-06 | 0.005161945 | 3.11544E-06 | 0.000848439 | 5.48089E-09 | — | — | 0.004241154 | 6.9232E-05 | 0.001002575 | 3.39217E-06 | 0.000923802 | 1.7891E-11 | — | — | — | 7.53816E-05 | 0.001523004 |
| Cadmium | Cd | — | — | — | 3.56076E-07 | 0.004213866 | 8.06197E-07 | 0.004192157 | 3.07E-12 | — | — | 1.57431E-05 | 5.15966E-06 | 0.004488589 | 8.61977E-07 | 0.00448221 | 1.98117E-12 | — | — | — | 5.51665E-06 | 0.004512428 |
| Cobalt | Co | — | — | — | 3.73776E-05 | 0.002045329 | 7.49754E-06 | 0.001737929 | 5.52024E-10 | — | — | — | 0.000299901 | 0.002300831 | 8.43413E-06 | 0.001955031 | 6.20983E-10 | — | — | — | 0.000337365 | 0.002586218 |
| Copper | Cu | — | — | — | 1.31156E-05 | 0.006080804 | 7.36686E-05 | 0.005276884 | 4.16515E-09 | — | — | 0.000582911 | 0.000147337 | 0.00598871 | 8.02453E-05 | 0.005747973 | 4.46529E-10 | — | — | — | 0.000160491 | 0.006672061 |
| Cyanide | CN- | — | — | — | — | 0.000549515 | — | — | 2.47804E-09 | — | — | 0.000549512 | — | — | — | — | — | — | — | — | — | 0.000615674 |
| Lead | Pb | — | — | — | 4.49763E-05 | 0.111200613 | 3.89616E-05 | 0.109954717 | 2.32547E-10 | — | — | 0.000514284 | 0.00069265 | 0.117889894 | 4.14972E-05 | 0.117110669 | 1.41819E-10 | — | — | — | 0.000737728 | 0.11850574 |
| Mercury | Hg | — | — | — | 8.62531E-08 | 0.000171143 | 8.53249E-07 | 0.000169607 | 7.60319E-12 | — | — | — | 6.826E-07 | 0.00019282 | 9.6132E-07 | 0.000191089 | 8.56619E-12 | — | — | — | 7.69056E-07 | 0.000200157 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.33751E-06 |
| Silver | Ag | — | — | — | 3.97549E-07 | 0.000856228 | 1.96307E-09 | 0.000847501 | 1.14167E-11 | — | — | — | 8.72476E-06 | 0.000895333 | 2.05273E-09 | 0.000886207 | 1.19382E-11 | — | — | — | 9.12322E-06 | 0.000944179 |
| Thallium | Tl | — | — | — | 1.0214E-07 | 0.000380856 | 1.94032E-08 | 0.000376956 | 6.48244E-11 | — | — | — | 3.88065E-06 | 0.000390912 | 1.99155E-08 | 0.000386909 | 6.65358E-11 | — | — | — | 3.9831E-06 | 0.000537633 |
| Uranium | U | — | — | — | 3.09127E-07 | 0.000477679 | 1.21655E-07 | 0.000472691 | 1.85129E-13 | — | — | — | 4.8662E-06 | 0.000508108 | 1.29405E-07 | 0.000502802 | 1.96922E-13 | — | — | — | 5.17619E-06 | 0.002863171 |
| Zinc | Zn | — | — | — | 0.000139516 | 0.126118063 | 0.00056163 | 0.121222226 | 2.06067E-10 | — | — | 0.002536991 | 0.001797216 | 0.133197257 | 0.000605332 | 0.130654862 | 6.35617E-11 | — | — | — | 0.001937062 | 0.138558335 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.057334954 | 0.115472598 | 1.30022E-07 | — | — | 0.117747822 | 0.045867963 | 0.141950969 | 0.00633793 | 0.012764591 | 1.15607E-07 | — | — | 0.117777989 | 0.005070344 | 0.312246619 | 0.050983132 | 0.102680027 | 1.2827E-07 | — | — |
| Antimony | Sb | 5.45792E-06 | 0.001037004 | 2.73179E-10 | — | — | 0.000414951 | 2.18317E-05 | 0.166236465 | 0.000850367 | 0.161569679 | 1.18028E-09 | — | — | 0.000414951 | 0.003401467 | 0.167786303 | 0.00085509 | 0.162467163 | 1.59039E-09 | — | — |
| Arsenic | As | 3.39217E-06 | 0.000923802 | 6.8843E-10 | — | — | 0.000520428 | 7.53816E-05 | 0.304801678 | 0.001029523 | 0.280373431 | 6.10045E-09 | — | — | 0.000520428 | 0.022878289 | 0.3093616 | 0.001032362 | 0.281146687 | 1.09094E-08 | — | — |
| Cadmium | Cd | 8.61977E-07 | 0.00448221 | 3.82409E-12 | — | — | 2.38391E-05 | 5.51665E-06 | 2.067437195 | 0.000397023 | 2.064487181 | 9.13451E-10 | — | — | 1.20445E-05 | 0.002540946 | 2.071349299 | 0.000397773 | 2.068390031 | 9.15462E-10 | — | — |
| Cobalt | Co | 8.43413E-06 | 0.001955031 | 4.29797E-09 | — | — | 0.000285383 | 0.000337365 | 0.527111123 | 0.001931024 | 0.447611351 | 1.46398E-07 | — | — | 0.000327644 | 0.077240958 | 0.528881637 | 0.001937587 | 0.449132677 | 1.46625E-07 | — | — |
| Copper | Cu | 8.02453E-05 | 0.005747973 | 4.84878E-09 | — | — | 0.000683347 | 0.000160491 | 6.25072481 | 0.083747423 | 5.998827944 | 4.70231E-07 | — | — | 0.000654125 | 0.167494847 | 6.255733291 | 0.083814534 | 6.003635092 | 4.70604E-07 | — | — |
| Cyanide | CN- | — | — | 2.77639E-09 | — | — | 0.000615671 | — | 0.000615695 | — | — | 2.77648E-09 | — | — | 0.000615692 | — | 0.000615695 | — | — | 2.77648E-09 | — | — |
| Lead | Pb | 4.14972E-05 | 0.117110669 | 2.60841E-10 | — | — | 0.000615846 | 0.000737728 | 10.14119493 | 0.003569528 | 10.07368338 | 1.22926E-08 | — | — | 0.000483739 | 0.063458272 | 10.24472454 | 0.003605959 | 10.17649834 | 1.2423E-08 | — | — |
| Mercury | Hg | 9.6132E-07 | 0.000191089 | 5.58358E-11 | — | — | 7.3375E-06 | 7.69056E-07 | 0.066915194 | 0.00033357 | 0.066306353 | 3.02659E-09 | — | — | 8.41186E-06 | 0.000266856 | 0.067064712 | 0.000334315 | 0.066454529 | 3.03324E-09 | — | — |
| Methyl-Mercury | Me-Hg | — | — | 3.68703E-12 | — | — | 7.3375E-06 | — | 8.41186E-06 | — | — | 4.22688E-12 | — | — | 8.41186E-06 | — | 8.41269E-06 | — | — | 4.22729E-12 | — | — |
| Silver | Ag | 2.05273E-09 | 0.000886207 | 1.06341E-10 | — | — | 4.88463E-05 | 9.12322E-06 | 0.078399567 | 1.79634E-07 | 0.077552165 | 1.13911E-09 | — | — | 4.88463E-05 | 0.000798375 | 0.079216781 | 1.81508E-07 | 0.078361049 | 1.15001E-09 | — | — |
| Thallium | Tl | 1.99155E-08 | 0.000386909 | 3.84727E-09 | — | — | 0.000146718 | 3.9831E-06 | 0.166999024 | 8.50051E-06 | 0.165143672 | 3.21801E-08 | — | — | 0.000146718 | 0.001700102 | 0.167396856 | 8.5194E-06 | 0.165510706 | 3.22433E-08 | — | — |
| Uranium | U | 1.29405E-07 | 0.000502802 | 1.38443E-10 | — | — | 0.002355063 | 5.17619E-06 | 0.336137908 | 8.50077E-05 | 0.330297528 | 2.67607E-10 | — | — | 0.002355063 | 0.003400309 | 0.336585242 | 8.51217E-05 | 0.330740191 | 2.6778E-10 | — | — |
| Zinc | Zn | 0.000605332 | 0.130654862 | 3.74395E-10 | — | — | 0.005361077 | 0.001937062 | 31.48306343 | 0.143067476 | 30.87968403 | 1.51672E-08 | — | — | 0.002495986 | 0.457815923 | 31.59709204 | 0.143585507 | 30.99149591 | 1.5224E-08 | — | — |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.117796827 | 0.040786505 | 0.336453635 | 0.057334954 | 0.115472598 | 1.30051E-07 | — | — | 0.117777989 | 0.045867963 | 0.336423467 | 0.057334954 | 0.115472598 | 1.30022E-07 | — | — | 0.117747822 | 0.045867963 | 0.117778103 | — | — |
| Antimony | Sb | 0.001043687 | 0.003420361 | 0.167229245 | 0.000855458 | 0.162537004 | 1.18575E-09 | — | — | 0.000414951 | 0.003421832 | 0.167229245 | 0.000855458 | 0.162537004 | 1.18575E-09 | — | — | 0.000414951 | 0.003421832 | 0.166164952 | 0.00085 | 0.1615 |
| Arsenic | As | 0.004241154 | 0.022941386 | 0.305722659 | 0.001032639 | 0.28122205 | 6.11689E-09 | — | — | 0.000520428 | 0.022947536 | 0.305722659 | 0.001032639 | 0.28122205 | 6.11689E-09 | — | — | 0.000520428 | 0.022947536 | 0.304720084 | 0.001029247 | 0.280298248 |
| Cadmium | Cd | 1.57431E-05 | 0.00254575 | 2.071636065 | 0.000397829 | 2.068680084 | 9.15304E-10 | — | — | 1.20445E-05 | 0.002546107 | 2.07164786 | 0.000397829 | 2.068680084 | 9.16216E-10 | — | — | 2.38391E-05 | 0.002546107 | 2.067147477 | 0.000396967 | 2.064197874 |
| Cobalt | Co | 0.000307745 | 0.077503482 | 0.529157039 | 0.001938524 | 0.449349779 | 1.4695E-07 | — | — | 0.000327644 | 0.077540946 | 0.529124806 | 0.001938524 | 0.449349779 | 1.46535E-07 | — | — | 0.000295411 | 0.077540946 | 0.526856208 | 0.00193009 | 0.447394748 |
| Copper | Cu | 0.000654125 | 0.167629069 | 6.25622411 | 0.083821111 | 6.004106181 | 4.70641E-07 | — | — | 0.000654125 | 0.167642222 | 6.256253332 | 0.083821111 | 6.004106181 | 4.70829E-07 | — | — | 0.000683347 | 0.167642222 | 6.250235401 | 0.083740866 | 5.998358208 |
| Cyanide | CN- | 0.000615692 | — | 0.000615695 | — | — | 2.77648E-09 | — | — | 0.000615692 | — | 0.000615674 | — | — | 2.77639E-09 | — | — | 0.000615671 | — | 0.000615695 | — | — |
| Lead | Pb | 0.000514284 | 0.064105946 | 10.25189756 | 0.003608495 | 10.18365429 | 1.24258E-08 | — | — | 0.000483739 | 0.064151024 | 10.25202966 | 0.003608495 | 10.18365429 | 1.24513E-08 | — | — | 0.000615846 | 0.064151024 | 10.13400766 | 0.003566998 | 10.06654362 |
| Mercury | Hg | 8.41268E-06 | 0.000267452 | 0.067086388 | 0.000334423 | 0.066476011 | 3.03419E-09 | — | — | 8.41186E-06 | 0.000267539 | 0.067085314 | 0.000334423 | 0.066476011 | 3.02727E-09 | — | — | 7.3375E-06 | 0.000267539 | 0.066893568 | 0.000333462 | 0.066284922 |
| Methyl-Mercury | Me-Hg | 8.41268E-06 | — | 8.41186E-06 | — | — | 4.22688E-12 | — | — | 8.41186E-06 | — | 7.33751E-06 | — | — | 3.68703E-12 | — | — | 7.3375E-06 | — | 8.41186E-06 | — | — |
| Silver | Ag | 4.88463E-05 | 0.000806702 | 0.079255885 | 1.81598E-07 | 0.078399755 | 1.15053E-09 | — | — | 4.88463E-05 | 0.000807101 | 0.079255885 | 1.81598E-07 | 0.078399755 | 1.15053E-09 | — | — | 4.88463E-05 | 0.000807101 | 0.078360553 | 1.79545E-07 | 0.077513548 |
| Thallium | Tl | 0.000146718 | 0.001703881 | 0.167379912 | 8.51992E-06 | 0.165520659 | 3.2245E-08 | — | — | 0.000146718 | 0.001703983 | 0.167379912 | 8.51992E-06 | 0.165520659 | 3.2245E-08 | — | — | 0.000146718 | 0.001703983 | 0.166989 | 0.0000085 | 0.16513375 |
| Uranium | U | 0.002355063 | 0.003404866 | 0.336615671 | 8.51294E-05 | 0.330770302 | 2.67792E-10 | — | — | 0.002355063 | 0.003405176 | 0.336615671 | 8.51294E-05 | 0.330770302 | 2.67792E-10 | — | — | 0.002355063 | 0.003405176 | 0.336107563 | 0.000085 | 0.3302675 |
| Zinc | Zn | 0.002536991 | 0.459473624 | 31.60666722 | 0.143629209 | 31.00092854 | 1.52262E-08 | — | — | 0.002495986 | 0.45961347 | 31.60953232 | 0.143629209 | 31.00092854 | 1.53923E-08 | — | — | 0.005361077 | 0.45961347 | 31.47346997 | 0.143023877 | 30.87027368 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 1.13812E-07 | — | — | 0.117777989 | — | 0.024172864 | 0.00633793 | 0.012764591 | — | — | — | — | 0.005070344 | 0.194449664 | 0.050983132 | 0.102680027 | — | — | — | — | 0.040786505 |
| Antimony | Sb | 1.17989E-09 | — | — | 0.000414951 | 0.0034 | 7.15129E-05 | 3.66733E-07 | 6.96793E-05 | — | — | — | — | 1.46693E-06 | 0.002036302 | 5.09033E-06 | 0.000967163 | — | — | — | 0.001043687 | 2.03613E-05 |
| Arsenic | As | 6.099E-09 | — | — | 0.000520428 | 0.022872154 | 8.1594E-05 | 2.7607E-07 | 7.5183E-05 | — | — | — | — | 6.13489E-06 | 0.00516194 | 3.11544E-06 | 0.000848439 | — | — | — | 0.004241154 | 6.9232E-05 |
| Cadmium | Cd | 9.13323E-10 | — | — | 1.20445E-05 | 0.00254059 | 0.000289719 | 5.56368E-08 | 0.000289307 | — | — | — | — | 3.56076E-07 | 0.004213866 | 8.06197E-07 | 0.004192157 | — | — | — | 1.57431E-05 | 5.15966E-06 |
| Cobalt | Co | 1.46329E-07 | — | — | 0.000327644 | 0.07720358 | 0.000254915 | 9.34441E-07 | 0.000216603 | — | — | — | — | 3.73776E-05 | 0.002045328 | 7.49754E-06 | 0.001737929 | — | — | — | — | 0.000299901 |
| Copper | Cu | 4.70194E-07 | — | — | 0.000654125 | 0.167481731 | 0.00048941 | 6.55782E-06 | 0.000469736 | — | — | — | — | 1.31156E-05 | 0.0060808 | 7.36686E-05 | 0.005276884 | — | — | — | 0.000582911 | 0.000147337 |
| Cyanide | CN- | 2.77648E-09 | — | — | 0.000615692 | — | — | — | — | — | — | — | — | — | 0.000549512 | — | — | — | — | — | 0.000549512 | — |
| Lead | Pb | 1.22839E-08 | — | — | 0.000483739 | 0.063413296 | 0.007187265 | 2.52992E-06 | 0.007139758 | — | — | — | — | 4.49763E-05 | 0.111200613 | 3.89616E-05 | 0.109954717 | — | — | — | 0.000514284 | 0.00069265 |
| Mercury | Hg | 3.02563E-09 | — | — | 8.41186E-06 | 0.00026677 | 2.16256E-05 | 1.07816E-07 | 2.14315E-05 | — | — | — | — | 8.62531E-08 | 0.000171143 | 8.53249E-07 | 0.000169607 | — | — | — | — | 6.826E-07 |
| Methyl-Mercury | Me-Hg | 4.22688E-12 | — | — | 8.41186E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 1.13859E-09 | — | — | 4.88463E-05 | 0.000797978 | 3.90146E-05 | 8.94486E-11 | 3.86169E-05 | — | — | — | — | 3.97549E-07 | 0.000856228 | 1.96307E-09 | 0.000847501 | — | — | — | — | 8.72476E-06 |
| Thallium | Tl | 3.21784E-08 | — | — | 0.000146718 | 0.0017 | 1.00243E-05 | 5.107E-10 | 9.92162E-06 | — | — | — | — | 1.0214E-07 | 0.000380856 | 1.94032E-08 | 0.000376956 | — | — | — | — | 3.88065E-06 |
| Uranium | U | 2.67595E-10 | — | — | 0.002355063 | 0.0034 | 3.03447E-05 | 7.72818E-09 | 3.00279E-05 | — | — | — | — | 3.09127E-07 | 0.000477679 | 1.21655E-07 | 0.000472691 | — | — | — | — | 4.8662E-06 |
| Zinc | Zn | 1.51627E-08 | — | — | 0.002495986 | 0.457676407 | 0.009593459 | 4.35987E-05 | 0.009410344 | — | — | — | — | 0.000139516 | 0.126118063 | 0.00056163 | 0.121222226 | — | — | — | 0.002536991 | 0.001797216 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.218675515 | 0.057334954 | 0.115472598 | — | — | — | — | 0.045867963 | 0.336423337 | 0.057334954 | 0.115472598 | — | — | — | 0.117747822 | 0.045867963 | 0.141950854 | 0.00633793 | 0.012764591 | — | — |
| Antimony | Sb | 0.001064294 | 5.45792E-06 | 0.001037004 | — | — | — | — | 2.18317E-05 | 0.001479244 | 5.45792E-06 | 0.001037004 | — | — | — | 0.000414951 | 2.18317E-05 | 0.166236464 | 0.000850367 | 0.161569679 | — | — |
| Arsenic | As | 0.001002575 | 3.39217E-06 | 0.000923802 | — | — | — | — | 7.53816E-05 | 0.001523003 | 3.39217E-06 | 0.000923802 | — | — | — | 0.000520428 | 7.53816E-05 | 0.304801671 | 0.001029523 | 0.280373431 | — | — |
| Cadmium | Cd | 0.004488589 | 8.61977E-07 | 0.00448221 | — | — | — | — | 5.51665E-06 | 0.004512428 | 8.61977E-07 | 0.00448221 | — | — | — | 2.38391E-05 | 5.51665E-06 | 2.067437194 | 0.000397023 | 2.064487181 | — | — |
| Cobalt | Co | 0.002300831 | 8.43413E-06 | 0.001955031 | — | — | — | — | 0.000337365 | 0.002586214 | 8.43413E-06 | 0.001955031 | — | — | — | 0.000285383 | 0.000337365 | 0.527110977 | 0.001931024 | 0.447611351 | — | — |
| Copper | Cu | 0.005988709 | 8.02453E-05 | 0.005747973 | — | — | — | — | 0.000160491 | 0.006672056 | 8.02453E-05 | 0.005747973 | — | — | — | 0.000683347 | 0.000160491 | 6.25072434 | 0.083747423 | 5.998827944 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000615671 | — | — | — | — | — | 0.000615671 | — | 0.000615692 | — | — | — | — |
| Lead | Pb | 0.117889894 | 4.14972E-05 | 0.117110669 | — | — | — | — | 0.000737728 | 0.11850574 | 4.14972E-05 | 0.117110669 | — | — | — | 0.000615846 | 0.000737728 | 10.14119492 | 0.003569528 | 10.07368338 | — | — |
| Mercury | Hg | 0.00019282 | 9.6132E-07 | 0.000191089 | — | — | — | — | 7.69056E-07 | 0.000200157 | 9.6132E-07 | 0.000191089 | — | — | — | 7.3375E-06 | 7.69056E-07 | 0.066915191 | 0.00033357 | 0.066306353 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 7.3375E-06 | — | — | — | — | — | 7.3375E-06 | — | 8.41186E-06 | — | — | — | — |
| Silver | Ag | 0.000895332 | 2.05273E-09 | 0.000886207 | — | — | — | — | 9.12322E-06 | 0.000944179 | 2.05273E-09 | 0.000886207 | — | — | — | 4.88463E-05 | 9.12322E-06 | 0.078399566 | 1.79634E-07 | 0.077552165 | — | — |
| Thallium | Tl | 0.000390912 | 1.99155E-08 | 0.000386909 | — | — | — | — | 3.9831E-06 | 0.000537629 | 1.99155E-08 | 0.000386909 | — | — | — | 0.000146718 | 3.9831E-06 | 0.166998992 | 8.50051E-06 | 0.165143672 | — | — |
| Uranium | U | 0.000508108 | 1.29405E-07 | 0.000502802 | — | — | — | — | 5.17619E-06 | 0.002863171 | 1.29405E-07 | 0.000502802 | — | — | — | 0.002355063 | 5.17619E-06 | 0.336137908 | 8.50077E-05 | 0.330297528 | — | — |
| Zinc | Zn | 0.133197257 | 0.000605332 | 0.130654862 | — | — | — | — | 0.001937062 | 0.138558334 | 0.000605332 | 0.130654862 | — | — | — | 0.005361077 | 0.001937062 | 31.48306341 | 0.143067476 | 30.87968403 | — | — |

**Table VI-3A Estimated Ecological Exposure Dose: Common Shrew**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) | Total Dose to Common Shrew (mg/kg/d) | Dose to Common Shrew from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.117777989 | 0.005070344 | 0.312246491 | 0.050983132 | 0.102680027 | — | — | — | 0.117796827 | 0.040786505 | 0.336453505 | 0.057334954 | 0.115472598 | — | — | — | 0.117777989 | 0.045867963 | 0.336423337 | 0.057334954 |
| Antimony | Sb | — | 0.000414951 | 0.003401467 | 0.167786302 | 0.00085509 | 0.162467163 | — | — | — | 0.001043687 | 0.003420361 | 0.167229244 | 0.000855458 | 0.162537004 | — | — | — | 0.000414951 | 0.003421832 | 0.167229244 | 0.000855458 |
| Arsenic | As | — | 0.000520428 | 0.022878289 | 0.309361589 | 0.001032362 | 0.281146687 | — | — | — | 0.004241154 | 0.022941386 | 0.305722653 | 0.001032639 | 0.28122205 | — | — | — | 0.000520428 | 0.022947536 | 0.305722653 | 0.001032639 |
| Cadmium | Cd | — | 1.20445E-05 | 0.002540946 | 2.071349298 | 0.000397773 | 2.068390031 | — | — | — | 1.57431E-05 | 0.00254575 | 2.071636064 | 0.000397829 | 2.068680084 | — | — | — | 1.20445E-05 | 0.002546107 | 2.071647859 | 0.000397829 |
| Cobalt | Co | — | 0.000327644 | 0.077240958 | 0.52888149 | 0.001937587 | 0.449132677 | — | — | — | 0.000307745 | 0.077503482 | 0.529156892 | 0.001938524 | 0.449349779 | — | — | — | 0.000327644 | 0.077540946 | 0.52912466 | 0.001938524 |
| Copper | Cu | — | 0.000654125 | 0.167494847 | 6.25573282 | 0.083814534 | 6.003635092 | — | — | — | 0.000654125 | 0.167629069 | 6.25622364 | 0.083821111 | 6.004106181 | — | — | — | 0.000654125 | 0.167642222 | 6.256252861 | 0.083821111 |
| Cyanide | CN- | — | 0.000615692 | — | 0.000615692 | — | — | — | — | — | 0.000615692 | — | 0.000615692 | — | — | — | — | — | 0.000615692 | — | 0.000615671 | — |
| Lead | Pb | — | 0.000483739 | 0.063458272 | 10.24472453 | 0.003605959 | 10.17649834 | — | — | — | 0.000514284 | 0.064105946 | 10.25189755 | 0.003608495 | 10.18365429 | — | — | — | 0.000483739 | 0.064151024 | 10.25202965 | 0.003608495 |
| Mercury | Hg | — | 8.41186E-06 | 0.000266856 | 0.067064709 | 0.000334315 | 0.066454529 | — | — | — | 8.41268E-06 | 0.000267452 | 0.067086385 | 0.000334423 | 0.066476011 | — | — | — | 8.41186E-06 | 0.000267539 | 0.067085311 | 0.000334423 |
| Methyl-Mercury | Me-Hg | — | 8.41186E-06 | — | 8.41268E-06 | — | — | — | — | — | 8.41268E-06 | — | 8.41186E-06 | — | — | — | — | — | 8.41186E-06 | — | 7.3375E-06 | — |
| Silver | Ag | — | 4.88463E-05 | 0.000798375 | 0.07921678 | 1.81508E-07 | 0.078361049 | — | — | — | 4.88463E-05 | 0.000806702 | 0.079255884 | 1.81598E-07 | 0.078399755 | — | — | — | 4.88463E-05 | 0.000807101 | 0.079255884 | 1.81598E-07 |
| Thallium | Tl | — | 0.000146718 | 0.001700102 | 0.167369824 | 8.5194E-06 | 0.165510706 | — | — | — | 0.000146718 | 0.001703881 | 0.167379879 | 8.51992E-06 | 0.165520659 | — | — | — | 0.000146718 | 0.001703983 | 0.167379879 | 8.51992E-06 |
| Uranium | U | — | 0.002355063 | 0.003400309 | 0.336585242 | 8.51217E-05 | 0.330740191 | — | — | — | 0.002355063 | 0.003404866 | 0.336615671 | 8.51294E-05 | 0.330770302 | — | — | — | 0.002355063 | 0.003405176 | 0.336615671 | 8.51294E-05 |
| Zinc | Zn | — | 0.002495986 | 0.457815923 | 31.59709203 | 0.143585507 | 30.99149591 | — | — | — | 0.002536991 | 0.459473624 | 31.60666721 | 0.143629209 | 31.00092854 | — | — | — | 0.002495986 | 0.45961347 | 31.6095323 | 0.143629209 |

## Table VI-3A Estimated Ecological Exposure Dose: Common Shrew

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Common Shrew from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Common Shrew from the consumption of Meat_4 (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of — (mg/kg/d) | Dose to Common Shrew from the consumption of media_Water (dry) (mg/kg/d) | Dose to Common Shrew from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.115472598 | — | — | — | 0.117747822 | 0.045867963 |
| Antimony | Sb | 0.162537004 | — | — | — | 0.000414951 | 0.003421832 |
| Arsenic | As | 0.28122205 | — | — | — | 0.000520428 | 0.022947536 |
| Cadmium | Cd | 2.068680084 | — | — | — | 2.38391E-05 | 0.002546107 |
| Cobalt | Co | 0.449349779 | — | — | — | 0.000295411 | 0.077540946 |
| Copper | Cu | 6.004106181 | — | — | — | 0.000683347 | 0.167642222 |
| Cyanide | CN- | — | — | — | — | 0.000615671 | — |
| Lead | Pb | 10.18365429 | — | — | — | 0.000615846 | 0.064151024 |
| Mercury | Hg | 0.066476011 | — | — | — | 7.3375E-06 | 0.000267539 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 7.3375E-06 | — |
| Silver | Ag | 0.078399755 | — | — | — | 4.88463E-05 | 0.000807101 |
| Thallium | Tl | 0.165520659 | — | — | — | 0.000146718 | 0.001703983 |
| Uranium | U | 0.330770302 | — | — | — | 0.002355063 | 0.003405176 |
| Zinc | Zn | 31.00092854 | — | — | — | 0.005361077 | 0.45961347 |

## Table VI-3B Estimated Ecological Risk: Common Shrew

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.061024924 | 0.006102492 | 276.4037613 | 27.64037613 | 276.4212898 | 27.64212898 | 0.017528497 | 0.00175285 | 276.4037613 | 27.64037613 | 2.241007054 | 0.224100705 | 276.4647862 | 27.64647862 | 276.4212898 | 27.64212898 | 276.4647862 | 27.64647862 | 2.241007054 | 0.224100705 | 0.061024924 |
| Antimony | Sb | 1.329319616 | 0.132931962 | 12.45057007 | 1.245057007 | 12.45329007 | 1.245329007 | 0.00272 | 0.000272 | 12.45057007 | 1.245057007 | 0.165166774 | 0.016516677 | 12.45388967 | 1.245388967 | 12.45329007 | 1.245329007 | 12.45388967 | 1.245388967 | 1.491166781 | 0.149116678 | 1.329319616 |
| Arsenic | As | 2.344000642 | 0.234400064 | 13.54256983 | 1.354256983 | 13.56610833 | 1.356610833 | 0.023538462 | 0.002353846 | 13.54256983 | 1.354256983 | 0.151632171 | 0.015163217 | 13.54657313 | 1.354657313 | 13.56610833 | 1.356610833 | 13.54657313 | 1.354657313 | 2.491629516 | 0.249162952 | 2.344000642 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.0718767 | 0.059870024 | 0.758002256 | 0.631381425 | 0.758095027 | 0.631458699 | 9.27694E-05 | 7.72727E-05 | 0.758002256 | 0.631381425 | 0.006211939 | 0.005174263 | 0.758046956 | 0.631418658 | 0.758095027 | 0.631458699 | 0.758046956 | 0.631418658 | 0.078043939 | 0.065007054 | 0.0718767 |
| Copper | Cu | 0.534208154 | 0.412829287 | 0.852668146 | 0.65893113 | 0.852929686 | 0.659133245 | 0.000261538 | 0.000202114 | 0.852668146 | 0.65893113 | 0.009993478 | 0.007722833 | 0.852724054 | 0.658974335 | 0.852929686 | 0.659133245 | 0.852724054 | 0.658974335 | 0.544145724 | 0.420508915 | 0.534208154 |
| Cyanide | CN- | 8.92311E-06 | 8.92311E-06 | — | — | 0.002463779 | 0.002463779 | 0.002463768 | 0.002463768 | — | — | 1.23189E-05 | 1.23189E-05 | 8.92311E-06 | 8.92311E-06 | 0.002463779 | 0.002463779 | 8.92311E-06 | 8.92311E-06 | 1.23189E-05 | 1.23189E-05 | 8.92311E-06 |
| Lead | Pb | 1.266750958 | 0.126675096 | 19.65945336 | 1.965945336 | 19.66119586 | 1.966119586 | 0.0017425 | 0.00017425 | 19.65945336 | 1.965945336 | 0.28212597 | 0.028212597 | 19.65951383 | 1.965951383 | 19.66119586 | 1.966119586 | 19.65951383 | 1.965951383 | 1.548816461 | 0.154881646 | 1.266750958 |
| Mercury | Hg | 0.066893568 | 0.066893568 | 0.468422435 | 0.468422435 | 0.468728437 | 0.468728437 | 0.000306 | 0.000306 | 0.468422435 | 0.468422435 | 0.003840177 | 0.003840177 | 0.468430847 | 0.468430847 | 0.468728437 | 0.468728437 | 0.468430847 | 0.468430847 | 0.070725334 | 0.070725334 | 0.066893568 |
| Methyl-Mercury | Me-Hg | 0.000262871 | 5.25741E-05 | — | — | 0.009562505 | 0.001912501 | 0.0095625 | 0.0019125 | — | — | 0.001062501 | 0.0002125 | 0.000262871 | 5.25741E-05 | 0.009562505 | 0.001912501 | 0.000262871 | 5.25741E-05 | 0.001062501 | 0.0002125 | 0.000262871 |
| Silver | Ag | 0.013016703 | 0.00130167 | 0.141306364 | 0.014130636 | 0.141307776 | 0.014130778 | 1.41196E-06 | 1.41196E-07 | 0.141306364 | 0.014130636 | 0.002818688 | 0.000281869 | 0.141314478 | 0.014131448 | 0.141307776 | 0.014130778 | 0.141314478 | 0.014131448 | 0.015827277 | 0.001582728 | 0.013016703 |
| Thallium | Tl | 22.56608107 | 2.256608107 | 26.9208015 | 2.69208015 | 41.6698302 | 4.16698302 | 14.74864865 | 1.474864865 | 26.9208015 | 2.69208015 | 0.995939283 | 0.099593928 | 26.94062873 | 2.694062873 | 41.6698302 | 4.16698302 | 26.94062873 | 2.694062873 | 23.54219312 | 2.354219312 | 22.56608107 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.196709187 | 0.098354594 | 1.297264436 | 0.648632218 | 1.297306936 | 0.648653468 | 0.0000425 | 0.00002125 | 1.297264436 | 0.648632218 | 0.016072039 | 0.00803602 | 1.297280036 | 0.648640018 | 1.297306936 | 0.648653468 | 1.297280036 | 0.648640018 | 0.212765627 | 0.106382813 | 0.196709187 |

## Table VI-3B Estimated Ecological Risk: Common Shrew

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.006102492 | 0.012524801 | 0.00125248 | 0.100751129 | 0.010075113 | 0.113303384 | 0.011330338 | 0.174312677 | 0.017431268 | 0.073549725 | 0.007354972 | 0.161785813 | 0.016178581 | 0.174328308 | 0.017432831 | 0.174312677 | 0.017431268 | 0.061024924 | 0.006102492 | 0.0125248 | 0.00125248 |
| Antimony | Sb | 0.132931962 | 0.000572103 | 5.72103E-05 | 0.016290418 | 0.001629042 | 0.008514348 | 0.000851435 | 0.011833957 | 0.001183396 | 1.329891719 | 0.132989172 | 1.342290426 | 0.134229043 | 1.337833964 | 0.133783396 | 1.337833964 | 0.133783396 | 1.329319616 | 0.132931962 | 0.000572103 | 5.72103E-05 |
| Arsenic | As | 0.234400064 | 0.000627646 | 6.27646E-05 | 0.039707272 | 0.003970727 | 0.007712118 | 0.000771212 | 0.011715416 | 0.001171542 | 2.344628289 | 0.234462829 | 2.379704616 | 0.237970462 | 2.351712761 | 0.235171276 | 2.351712761 | 0.235171276 | 2.344000642 | 0.234400064 | 0.000627646 | 6.27646E-05 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.059870024 | 3.4777E-05 | 2.89677E-05 | 0.000279035 | 0.000232424 | 0.000313892 | 0.000261458 | 0.000352827 | 0.000293888 | 0.071911477 | 0.059898991 | 0.07215302 | 0.060100186 | 0.072190592 | 0.060131482 | 0.072186195 | 0.060127819 | 0.0718767 | 0.059870024 | 3.4777E-05 | 2.89677E-05 |
| Copper | Cu | 0.412829287 | 4.18299E-05 | 3.23256E-05 | 0.000519727 | 0.000401638 | 0.000511856 | 0.000395555 | 0.000570262 | 0.000440691 | 0.534249984 | 0.412861612 | 0.534678059 | 0.413192423 | 0.534720009 | 0.413224842 | 0.534722507 | 0.413226772 | 0.534208154 | 0.412829287 | 4.18299E-05 | 3.23256E-05 |
| Cyanide | CN- | 8.92311E-06 | — | — | 7.96398E-06 | 7.96398E-06 | — | — | 8.92281E-06 | 8.92281E-06 | 8.92311E-06 | 8.92311E-06 | 8.92311E-06 | 8.92311E-06 | 8.92311E-06 | 8.92311E-06 | 8.92281E-06 | 8.92281E-06 | 8.92311E-06 | 8.92311E-06 | — | — |
| Lead | Pb | 0.126675096 | 0.000898408 | 8.98408E-05 | 0.013900077 | 0.001390008 | 0.014736237 | 0.001473624 | 0.014813218 | 0.001481322 | 1.267649366 | 0.126764937 | 1.280590567 | 0.128059057 | 1.281487195 | 0.128148719 | 1.281503708 | 0.128150371 | 1.266750958 | 0.126675096 | 0.000898408 | 8.98408E-05 |
| Mercury | Hg | 0.066893568 | 2.16256E-05 | 2.16256E-05 | 0.000171143 | 0.000171143 | 0.00019282 | 0.00019282 | 0.000200157 | 0.000200157 | 0.066915194 | 0.066915194 | 0.067064712 | 0.067064712 | 0.067086388 | 0.067086388 | 0.067085314 | 0.067085314 | 0.066893568 | 0.066893568 | 2.16256E-05 | 2.16256E-05 |
| Methyl-Mercury | Me-Hg | 5.25741E-05 | — | — | — | — | — | — | 0.000229297 | 4.58594E-05 | 0.000262871 | 5.25741E-05 | 0.000262897 | 5.25793E-05 | 0.000262871 | 5.25741E-05 | 0.000229297 | 4.58594E-05 | 0.000262871 | 5.25741E-05 | — | — |
| Silver | Ag | 0.00130167 | 6.48083E-06 | 6.48083E-07 | 0.000142231 | 1.42231E-05 | 0.000148726 | 1.48726E-05 | 0.00015684 | 1.5684E-05 | 0.013023184 | 0.001302318 | 0.013158934 | 0.001315893 | 0.013165429 | 0.001316543 | 0.013165429 | 0.001316543 | 0.013016703 | 0.00130167 | 6.48083E-06 | 6.48083E-07 |
| Thallium | Tl | 2.256608107 | 0.001354631 | 0.000135463 | 0.051467078 | 0.005146708 | 0.052825894 | 0.005282589 | 0.072653129 | 0.007265313 | 22.5674357 | 2.25674357 | 22.61754815 | 2.261754815 | 22.61890697 | 2.261890697 | 22.61890697 | 2.261890697 | 22.56608107 | 2.256608107 | 0.001354631 | 0.000135463 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.098354594 | 5.99591E-05 | 2.99796E-05 | 0.000788238 | 0.000394119 | 0.000832483 | 0.000416241 | 0.00086599 | 0.000432995 | 0.196769146 | 0.098384573 | 0.197481825 | 0.098740913 | 0.19754167 | 0.098770835 | 0.197559577 | 0.098779788 | 0.196709187 | 0.098354594 | 5.99591E-05 | 2.99796E-05 |

## Table VI-3B Estimated Ecological Risk: Common Shrew

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) | Risk to Common Shrew (NOAELm) | Risk to Common Shrew (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.100751121 | 0.010075112 | 0.113303376 | 0.011330338 | 0.17431261 | 0.017431261 | 0.073549665 | 0.007354967 | 0.161785747 | 0.016178575 | 0.174328241 | 0.017432824 |
| Antimony | Sb | 0.016290413 | 0.001629041 | 0.008514348 | 0.000851435 | 0.011833954 | 0.001183395 | 1.32989171 | 0.132989171 | 1.342290413 | 0.134229041 | 1.337833954 | 0.133783395 |
| Arsenic | As | 0.039707229 | 0.003970723 | 0.007712118 | 0.000771212 | 0.011715411 | 0.001171541 | 2.344628242 | 0.234462824 | 2.379704532 | 0.237970453 | 2.351712713 | 0.235171271 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000279035 | 0.000232424 | 0.000313892 | 0.000261458 | 0.000352826 | 0.000293888 | 0.071911457 | 0.059898975 | 0.072153 | 0.060100169 | 0.072190572 | 0.060131465 |
| Copper | Cu | 0.000519727 | 0.000401638 | 0.000511856 | 0.000395555 | 0.000570261 | 0.000440691 | 0.534249944 | 0.412861581 | 0.534678019 | 0.413192392 | 0.534719969 | 0.413224811 |
| Cyanide | CN- | 7.96395E-06 | 7.96395E-06 | — | — | 8.92277E-06 | 8.92277E-06 | 8.92307E-06 | 8.92307E-06 | 8.92307E-06 | 8.92307E-06 | 8.92307E-06 | 8.92307E-06 |
| Lead | Pb | 0.013900077 | 0.001390008 | 0.014736237 | 0.001473624 | 0.014813217 | 0.001481322 | 1.267649364 | 0.126764936 | 1.280590566 | 0.128059057 | 1.281487193 | 0.128148719 |
| Mercury | Hg | 0.000171143 | 0.000171143 | 0.00019282 | 0.00019282 | 0.000200157 | 0.000200157 | 0.066915191 | 0.066915191 | 0.067064709 | 0.067064709 | 0.067086385 | 0.067086385 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000229297 | 4.58594E-05 | 0.000262871 | 5.25741E-05 | 0.000262896 | 5.25793E-05 | 0.000262871 | 5.25741E-05 |
| Silver | Ag | 0.000142231 | 1.42231E-05 | 0.000148726 | 1.48726E-05 | 0.00015684 | 1.5684E-05 | 0.013023184 | 0.001302318 | 0.013158933 | 0.001315893 | 0.013165429 | 0.001316543 |
| Thallium | Tl | 0.051467069 | 0.005146707 | 0.052825885 | 0.005282589 | 0.072652609 | 0.007265261 | 22.56743135 | 2.256743135 | 22.61754379 | 2.261754379 | 22.61890261 | 2.261890261 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000788238 | 0.000394119 | 0.000832483 | 0.000416241 | 0.00086599 | 0.000432995 | 0.196769146 | 0.098384573 | 0.197481825 | 0.098740913 | 0.19754167 | 0.098770835 |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0 | — | — | — | — | — | 0 | — | 290.7074929 | — | 290.7074929 | — | — | — | — | 0 | 290.7074929 | — | 290.7074929 | — | — |
| Antimony | Sb | 0.166666667 | — | 0.166666667 | — | — | — | 0 | 0 | 1.564928356 | — | 1.564928356 | — | — | — | — | 0 | 1.564928356 | — | 1.564928356 | — | — |
| Arsenic | As | 0.289265478 | — | 0.289265478 | — | — | — | 0 | 0 | 1.674103583 | — | 1.674103583 | — | — | — | — | 0 | 1.674103583 | — | 1.674103583 | — | — |
| Cadmium | Cd | 2.130235164 | — | 2.130235164 | — | — | — | 0 | 0 | 6.307845318 | — | 6.307845318 | — | — | — | — | 0 | 6.307845318 | — | 6.307845318 | — | — |
| Cobalt | Co | 0.461707686 | — | 0.461707686 | — | — | — | 0 | 0 | 4.872138713 | — | 4.872138713 | — | — | — | — | 0 | 4.872138713 | — | 4.872138713 | — | — |
| Copper | Cu | 6.190256149 | — | 6.190256149 | — | — | — | 0 | 0 | 9.881516511 | — | 9.881516511 | — | — | — | — | 0 | 9.881516511 | — | 9.881516511 | — | — |
| Cyanide | CN- | 0 | — | — | — | — | — | 0 | — | — | — | — | — | — | — | — | — | 0 | — | — | — | — |
| Lead | Pb | 10.38858991 | — | 10.38858991 | — | — | — | 0 | 0 | 161.2343349 | — | 161.2343349 | — | — | — | — | 0 | 161.2343349 | — | 161.2343349 | — | — |
| Mercury | Hg | 0.068405492 | — | 0.068405492 | — | — | — | 0 | 0 | 0.479069929 | — | 0.479069929 | — | — | — | — | 0 | 0.479069929 | — | 0.479069929 | — | — |
| Methyl-Mercury | Me-Hg | 0 | — | — | — | — | — | 0 | — | — | — | — | — | — | — | — | — | 0 | — | — | — | — |
| Silver | Ag | 0.079993342 | — | 0.079993342 | — | — | — | 0 | 0 | 0.868931148 | — | 0.868931148 | — | — | — | — | 0 | 0.868931148 | — | 0.868931148 | — | — |
| Thallium | Tl | 0.170416667 | — | 0.170416667 | — | — | — | 0 | 0 | 0.203481842 | — | 0.203481842 | — | — | — | — | 0 | 0.203481842 | — | 0.203481842 | — | — |
| Uranium | U | 0.340833333 | — | 0.340833333 | — | — | — | 0 | 0 | 0.638913648 | — | 0.638913648 | — | — | — | — | 0 | 0.638913648 | — | 0.638913648 | — | — |
| Zinc | Zn | 31.85786758 | — | 31.85786758 | — | — | — | 0 | 0 | 210.1140112 | — | 210.1140112 | — | — | — | — | 0 | 210.1140112 | — | 210.1140112 | — | — |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| Phase | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0 | 0 | 290.7074929 | — | 290.7074929 | — | — | — | — | 0 | 2.350029756 | — | 2.350029756 | — | — | — | 0 | 0 | 290.7074929 | — |
| Antimony | Sb | — | 0 | 0 | 1.564928356 | — | 1.564928356 | — | — | — | — | 0 | 0.02055927 | — | 0.02055927 | — | — | — | 0 | 0 | 1.564928356 | — |
| Arsenic | As | — | 0 | 0 | 1.674103583 | — | 1.674103583 | — | — | — | — | 0 | 0.018474024 | — | 0.018474024 | — | — | — | 0 | 0 | 1.674103583 | — |
| Cadmium | Cd | — | 0 | 0 | 6.307845318 | — | 6.307845318 | — | — | — | — | 0 | 0.088719193 | — | 0.088719193 | — | — | — | 0 | 0 | 6.307845318 | — |
| Cobalt | Co | — | 0 | 0 | 4.872138713 | — | 4.872138713 | — | — | — | — | 0 | 0.039793721 | — | 0.039793721 | — | — | — | 0 | 0 | 4.872138713 | — |
| Copper | Cu | — | 0 | 0 | 9.881516511 | — | 9.881516511 | — | — | — | — | 0 | 0.114971842 | — | 0.114971842 | — | — | — | 0 | 0 | 9.881516511 | — |
| Cyanide | CN- | — | 0 | — | — | — | — | — | — | — | — | — | 0 | — | — | — | — | — | 0 | — | 0 | — |
| Lead | Pb | — | 0 | 0 | 161.2343349 | — | 161.2343349 | — | — | — | — | 0 | 2.312946409 | — | 2.312946409 | — | — | — | 0 | 0 | 161.2343349 | — |
| Mercury | Hg | — | 0 | 0 | 0.479069929 | — | 0.479069929 | — | — | — | — | 0 | 0.003892693 | — | 0.003892693 | — | — | — | 0 | 0 | 0.479069929 | — |
| Methyl-Mercury | Me-Hg | — | 0 | — | — | — | — | — | — | — | — | — | 0 | — | — | — | — | — | 0 | — | 0 | — |
| Silver | Ag | — | 0 | 0 | 0.868931148 | — | 0.868931148 | — | — | — | — | 0 | 0.017315738 | — | 0.017315738 | — | — | — | 0 | 0 | 0.868931148 | — |
| Thallium | Tl | — | 0 | 0 | 0.203481842 | — | 0.203481842 | — | — | — | — | 0 | 0.007475749 | — | 0.007475749 | — | — | — | 0 | 0 | 0.203481842 | — |
| Uranium | U | — | 0 | 0 | 0.638913648 | — | 0.638913648 | — | — | — | — | 0 | 0.009922887 | — | 0.009922887 | — | — | — | 0 | 0 | 0.638913648 | — |
| Zinc | Zn | — | 0 | 0 | 210.1140112 | — | 210.1140112 | — | — | — | — | 0 | 2.597977068 | — | 2.597977068 | — | — | — | 0 | 0 | 210.1140112 | — |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 290.7074929 | — | — | — | 0 | 0 | 290.7074929 | — | 290.7074929 | — | — | — | 0 | 0 | 290.7074929 | — | 290.7074929 | — | — | — | 0 |
| Antimony | Sb | 1.564928356 | — | — | — | 0 | 0 | 1.564928356 | — | 1.564928356 | — | — | — | 0 | 0 | 1.564928356 | — | 1.564928356 | — | — | — | 0 |
| Arsenic | As | 1.674103583 | — | — | — | 0 | 0 | 1.674103583 | — | 1.674103583 | — | — | — | 0 | 0 | 1.674103583 | — | 1.674103583 | — | — | — | 0 |
| Cadmium | Cd | 6.307845318 | — | — | — | 0 | 0 | 6.307845318 | — | 6.307845318 | — | — | — | 0 | 0 | 6.307845318 | — | 6.307845318 | — | — | — | 0 |
| Cobalt | Co | 4.872138713 | — | — | — | 0 | 0 | 4.872138713 | — | 4.872138713 | — | — | — | 0 | 0 | 4.872138713 | — | 4.872138713 | — | — | — | 0 |
| Copper | Cu | 9.881516511 | — | — | — | 0 | 0 | 9.881516511 | — | 9.881516511 | — | — | — | 0 | 0 | 9.881516511 | — | 9.881516511 | — | — | — | 0 |
| Cyanide | CN- | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 |
| Lead | Pb | 161.2343349 | — | — | — | 0 | 0 | 161.2343349 | — | 161.2343349 | — | — | — | 0 | 0 | 161.2343349 | — | 161.2343349 | — | — | — | 0 |
| Mercury | Hg | 0.479069929 | — | — | — | 0 | 0 | 0.479069929 | — | 0.479069929 | — | — | — | 0 | 0 | 0.479069929 | — | 0.479069929 | — | — | — | 0 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 |
| Silver | Ag | 0.868931148 | — | — | — | 0 | 0 | 0.868931148 | — | 0.868931148 | — | — | — | 0 | 0 | 0.868931148 | — | 0.868931148 | — | — | — | 0 |
| Thallium | Tl | 0.203481842 | — | — | — | 0 | 0 | 0.203481842 | — | 0.203481842 | — | — | — | 0 | 0 | 0.203481842 | — | 0.203481842 | — | — | — | 0 |
| Uranium | U | 0.638913648 | — | — | — | 0 | 0 | 0.638913648 | — | 0.638913648 | — | — | — | 0 | 0 | 0.638913648 | — | 0.638913648 | — | — | — | 0 |
| Zinc | Zn | 210.1140112 | — | — | — | 0 | 0 | 210.1140112 | — | 210.1140112 | — | — | — | 0 | 0 | 210.1140112 | — | 210.1140112 | — | — | — | 0 |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0 | 2.350029756 | — | 2.350029756 | — | — | — | 0 | 0 | 0 | — | — | — | — | — | 0 | — | 0.013172952 | — | 0.013172952 | — |
| Antimony | Sb | 0 | 0.187225937 | — | 0.187225937 | — | — | — | 0 | 0 | 0.166666667 | — | 0.166666667 | — | — | — | 0 | 0 | 7.19084E-05 | — | 7.19084E-05 | — |
| Arsenic | As | 0 | 0.307739502 | — | 0.307739502 | — | — | — | 0 | 0 | 0.289265478 | — | 0.289265478 | — | — | — | 0 | 0 | 7.75883E-05 | — | 7.75883E-05 | — |
| Cadmium | Cd | 0 | 2.218954357 | — | 2.218954357 | — | — | — | 0 | 0 | 2.130235164 | — | 2.130235164 | — | — | — | 0 | 0 | 0.000298562 | — | 0.000298562 | — |
| Cobalt | Co | 0 | 0.501501407 | — | 0.501501407 | — | — | — | 0 | 0 | 0.461707686 | — | 0.461707686 | — | — | — | 0 | 0 | 0.000223533 | — | 0.000223533 | — |
| Copper | Cu | 0 | 6.305227991 | — | 6.305227991 | — | — | — | 0 | 0 | 6.190256149 | — | 6.190256149 | — | — | — | 0 | 0 | 0.000484764 | — | 0.000484764 | — |
| Cyanide | CN- | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | — | — | — | — |
| Lead | Pb | 0 | 12.70153631 | — | 12.70153631 | — | — | — | 0 | 0 | 10.38858991 | — | 10.38858991 | — | — | — | 0 | 0 | 0.007368172 | — | 0.007368172 | — |
| Mercury | Hg | 0 | 0.072298185 | — | 0.072298185 | — | — | — | 0 | 0 | 0.068405492 | — | 0.068405492 | — | — | — | 0 | 0 | 2.21172E-05 | — | 2.21172E-05 | — |
| Methyl-Mercury | Me-Hg | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | — | — | — | — |
| Silver | Ag | 0 | 0.09730908 | — | 0.09730908 | — | — | — | 0 | 0 | 0.079993342 | — | 0.079993342 | — | — | — | 0 | 0 | 3.98524E-05 | — | 3.98524E-05 | — |
| Thallium | Tl | 0 | 0.177892415 | — | 0.177892415 | — | — | — | 0 | 0 | 0.170416667 | — | 0.170416667 | — | — | — | 0 | 0 | 1.0239E-05 | — | 1.0239E-05 | — |
| Uranium | U | 0 | 0.35075622 | — | 0.35075622 | — | — | — | 0 | 0 | 0.340833333 | — | 0.340833333 | — | — | — | 0 | 0 | 3.09885E-05 | — | 3.09885E-05 | — |
| Zinc | Zn | 0 | 34.45584464 | — | 34.45584464 | — | — | — | 0 | 0 | 31.85786758 | — | 31.85786758 | — | — | — | 0 | 0 | 0.009711397 | — | 0.009711397 | — |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0 | 0.10596494 | — | 0.10596494 | — | — | — | — | 0 | 0.119166768 | — | 0.119166768 | — | — | — | — | 0 | 0.119166768 |
| Antimony | Sb | — | — | — | 0 | 0.000998104 | — | 0.000998104 | — | — | — | 0 | 0 | 0.001070179 | — | 0.001070179 | — | — | — | — | 0 | 0.001070179 |
| Arsenic | As | — | — | — | 0 | 0.000875582 | — | 0.000875582 | — | — | — | 0 | 0 | 0.000953356 | — | 0.000953356 | — | — | — | — | 0 | 0.000953356 |
| Cadmium | Cd | — | — | — | 0 | 0.004326272 | — | 0.004326272 | — | — | — | 0 | 0 | 0.004625604 | — | 0.004625604 | — | — | — | — | 0 | 0.004625604 |
| Cobalt | Co | — | — | — | 0 | 0.001793529 | — | 0.001793529 | — | — | — | — | 0 | 0.002017576 | — | 0.002017576 | — | — | — | — | 0 | 0.002017576 |
| Copper | Cu | — | — | — | 0 | 0.005445701 | — | 0.005445701 | — | — | — | 0 | 0 | 0.005931861 | — | 0.005931861 | — | — | — | — | 0 | 0.005931861 |
| Cyanide | CN- | — | — | — | — | 0 | — | — | — | — | — | 0 | — | — | — | — | — | — | — | — | — | 0 |
| Lead | Pb | — | — | — | 0 | 0.11347236 | — | 0.11347236 | — | — | — | 0 | 0 | 0.120857243 | — | 0.120857243 | — | — | — | — | 0 | 0.120857243 |
| Mercury | Hg | — | — | — | 0 | 0.000175033 | — | 0.000175033 | — | — | — | — | 0 | 0.000197203 | — | 0.000197203 | — | — | — | — | 0 | 0.000197203 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0 |
| Silver | Ag | — | — | — | 0 | 0.000874615 | — | 0.000874615 | — | — | — | — | 0 | 0.000914559 | — | 0.000914559 | — | — | — | — | 0 | 0.000914559 |
| Thallium | Tl | — | — | — | 0 | 0.000389016 | — | 0.000389016 | — | — | — | — | 0 | 0.000399286 | — | 0.000399286 | — | — | — | — | 0 | 0.000399286 |
| Uranium | U | — | — | — | 0 | 0.000487813 | — | 0.000487813 | — | — | — | — | 0 | 0.000518888 | — | 0.000518888 | — | — | — | — | 0 | 0.000518888 |
| Zinc | Zn | — | — | — | 0 | 0.125100336 | — | 0.125100336 | — | — | — | 0 | 0 | 0.134834739 | — | 0.134834739 | — | — | — | — | 0 | 0.134834739 |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.119166768 | — | — | — | 0 | 0 | 0.013172952 | — | 0.013172952 | — | — | — | 0 | 0 | 0.10596494 | — | 0.10596494 | — | — | — |
| Antimony | Sb | — | 0.001070179 | — | — | — | 0 | 0 | 0.166738575 | — | 0.166738575 | — | — | — | 0 | 0 | 0.167664771 | — | 0.167664771 | — | — | — |
| Arsenic | As | — | 0.000953356 | — | — | — | 0 | 0 | 0.289343066 | — | 0.289343066 | — | — | — | 0 | 0 | 0.29014106 | — | 0.29014106 | — | — | — |
| Cadmium | Cd | — | 0.004625604 | — | — | — | 0 | 0 | 2.130533726 | — | 2.130533726 | — | — | — | 0 | 0 | 2.134561436 | — | 2.134561436 | — | — | — |
| Cobalt | Co | — | 0.002017576 | — | — | — | 0 | 0 | 0.461931219 | — | 0.461931219 | — | — | — | 0 | 0 | 0.463501215 | — | 0.463501215 | — | — | — |
| Copper | Cu | — | 0.005931861 | — | — | — | 0 | 0 | 6.190740913 | — | 6.190740913 | — | — | — | 0 | 0 | 6.195701849 | — | 6.195701849 | — | — | — |
| Cyanide | CN- | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — |
| Lead | Pb | — | 0.120857243 | — | — | — | 0 | 0 | 10.39595808 | — | 10.39595808 | — | — | — | 0 | 0 | 10.50206227 | — | 10.50206227 | — | — | — |
| Mercury | Hg | — | 0.000197203 | — | — | — | 0 | 0 | 0.068427609 | — | 0.068427609 | — | — | — | 0 | 0 | 0.068580525 | — | 0.068580525 | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — |
| Silver | Ag | — | 0.000914559 | — | — | — | 0 | 0 | 0.080033194 | — | 0.080033194 | — | — | — | 0 | 0 | 0.080867956 | — | 0.080867956 | — | — | — |
| Thallium | Tl | — | 0.000399286 | — | — | — | 0 | 0 | 0.170426906 | — | 0.170426906 | — | — | — | 0 | 0 | 0.170805682 | — | 0.170805682 | — | — | — |
| Uranium | U | — | 0.000518888 | — | — | — | 0 | 0 | 0.340864322 | — | 0.340864322 | — | — | — | 0 | 0 | 0.341321146 | — | 0.341321146 | — | — | — |
| Zinc | Zn | — | 0.134834739 | — | — | — | 0 | 0 | 31.86757897 | — | 31.86757897 | — | — | — | 0 | 0 | 31.98296791 | — | 31.98296791 | — | — | — |

**Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis**

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0 | 0 | 0.119166768 | — | 0.119166768 | — | — | — | 0 | 0 | 0.119166768 | — | 0.119166768 | — | — | — | 0 | 0 | 0 | — | — |
| Antimony | Sb | 0 | 0 | 0.167736846 | — | 0.167736846 | — | — | — | 0 | 0 | 0.167736846 | — | 0.167736846 | — | — | — | 0 | 0 | 0.166666667 | — | 0.166666667 |
| Arsenic | As | 0 | 0 | 0.290218834 | — | 0.290218834 | — | — | — | 0 | 0 | 0.290218834 | — | 0.290218834 | — | — | — | 0 | 0 | 0.289265478 | — | 0.289265478 |
| Cadmium | Cd | 0 | 0 | 2.134860767 | — | 2.134860767 | — | — | — | 0 | 0 | 2.134860767 | — | 2.134860767 | — | — | — | 0 | 0 | 2.130235164 | — | 2.130235164 |
| Cobalt | Co | 0 | 0 | 0.463725262 | — | 0.463725262 | — | — | — | 0 | 0 | 0.463725262 | — | 0.463725262 | — | — | — | 0 | 0 | 0.461707686 | — | 0.461707686 |
| Copper | Cu | 0 | 0 | 6.19618801 | — | 6.19618801 | — | — | — | 0 | 0 | 6.19618801 | — | 6.19618801 | — | — | — | 0 | 0 | 6.190256149 | — | 6.190256149 |
| Cyanide | CN- | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — |
| Lead | Pb | 0 | 0 | 10.50944715 | — | 10.50944715 | — | — | — | 0 | 0 | 10.50944715 | — | 10.50944715 | — | — | — | 0 | 0 | 10.38858991 | — | 10.38858991 |
| Mercury | Hg | 0 | 0 | 0.068602695 | — | 0.068602695 | — | — | — | 0 | 0 | 0.068602695 | — | 0.068602695 | — | — | — | 0 | 0 | 0.068405492 | — | 0.068405492 |
| Methyl-Mercury | Me-Hg | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — |
| Silver | Ag | 0 | 0 | 0.0809079 | — | 0.0809079 | — | — | — | 0 | 0 | 0.0809079 | — | 0.0809079 | — | — | — | 0 | 0 | 0.079993342 | — | 0.079993342 |
| Thallium | Tl | 0 | 0 | 0.170815953 | — | 0.170815953 | — | — | — | 0 | 0 | 0.170815953 | — | 0.170815953 | — | — | — | 0 | 0 | 0.170416667 | — | 0.170416667 |
| Uranium | U | 0 | 0 | 0.341352221 | — | 0.341352221 | — | — | — | 0 | 0 | 0.341352221 | — | 0.341352221 | — | — | — | 0 | 0 | 0.340833333 | — | 0.340833333 |
| Zinc | Zn | 0 | 0 | 31.99270232 | — | 31.99270232 | — | — | — | 0 | 0 | 31.99270232 | — | 31.99270232 | — | — | — | 0 | 0 | 31.85786758 | — | 31.85786758 |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0 | — | 0.013172952 | — | 0.013172952 | — | — | — | — | 0 | 0.10596494 | — | 0.10596494 | — | — | — | — | 0 |
| Antimony | Sb | — | — | — | 0 | 0 | 7.19084E-05 | — | 7.19084E-05 | — | — | — | — | 0 | 0.000998104 | — | 0.000998104 | — | — | — | 0 | 0 |
| Arsenic | As | — | — | — | 0 | 0 | 7.75883E-05 | — | 7.75883E-05 | — | — | — | — | 0 | 0.000875582 | — | 0.000875582 | — | — | — | 0 | 0 |
| Cadmium | Cd | — | — | — | 0 | 0 | 0.000298562 | — | 0.000298562 | — | — | — | — | 0 | 0.004326272 | — | 0.004326272 | — | — | — | 0 | 0 |
| Cobalt | Co | — | — | — | 0 | 0 | 0.000223533 | — | 0.000223533 | — | — | — | — | 0 | 0.001793529 | — | 0.001793529 | — | — | — | — | 0 |
| Copper | Cu | — | — | — | 0 | 0 | 0.000484764 | — | 0.000484764 | — | — | — | — | 0 | 0.005445701 | — | 0.005445701 | — | — | — | 0 | 0 |
| Cyanide | CN- | — | — | — | 0 | — | — | — | — | — | — | — | — | — | 0 | — | — | — | — | — | 0 | — |
| Lead | Pb | — | — | — | 0 | 0 | 0.007368172 | — | 0.007368172 | — | — | — | — | 0 | 0.11347236 | — | 0.11347236 | — | — | — | 0 | 0 |
| Mercury | Hg | — | — | — | 0 | 0 | 2.21172E-05 | — | 2.21172E-05 | — | — | — | — | 0 | 0.000175033 | — | 0.000175033 | — | — | — | — | 0 |
| Methyl-Mercury | Me-Hg | — | — | — | 0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 0 | 0 | 3.98524E-05 | — | 3.98524E-05 | — | — | — | — | 0 | 0.000874615 | — | 0.000874615 | — | — | — | — | 0 |
| Thallium | Tl | — | — | — | 0 | 0 | 1.0239E-05 | — | 1.0239E-05 | — | — | — | — | 0 | 0.000389016 | — | 0.000389016 | — | — | — | — | 0 |
| Uranium | U | — | — | — | 0 | 0 | 3.09885E-05 | — | 3.09885E-05 | — | — | — | — | 0 | 0.000487813 | — | 0.000487813 | — | — | — | — | 0 |
| Zinc | Zn | — | — | — | 0 | 0 | 0.009711397 | — | 0.009711397 | — | — | — | — | 0 | 0.125100336 | — | 0.125100336 | — | — | — | 0 | 0 |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.119166768 | — | 0.119166768 | — | — | — | — | 0 | 0.119166768 | — | 0.119166768 | — | — | — | 0 | 0 | 0.013172952 | — | 0.013172952 | — | — |
| Antimony | Sb | 0.001070179 | — | 0.001070179 | — | — | — | — | 0 | 0.001070179 | — | 0.001070179 | — | — | — | 0 | 0 | 0.166738575 | — | 0.166738575 | — | — |
| Arsenic | As | 0.000953356 | — | 0.000953356 | — | — | — | — | 0 | 0.000953356 | — | 0.000953356 | — | — | — | 0 | 0 | 0.289343066 | — | 0.289343066 | — | — |
| Cadmium | Cd | 0.004625604 | — | 0.004625604 | — | — | — | — | 0 | 0.004625604 | — | 0.004625604 | — | — | — | 0 | 0 | 2.130533726 | — | 2.130533726 | — | — |
| Cobalt | Co | 0.002017576 | — | 0.002017576 | — | — | — | — | 0 | 0.002017576 | — | 0.002017576 | — | — | — | 0 | 0 | 0.461931219 | — | 0.461931219 | — | — |
| Copper | Cu | 0.005931861 | — | 0.005931861 | — | — | — | — | 0 | 0.005931861 | — | 0.005931861 | — | — | — | 0 | 0 | 6.190740913 | — | 6.190740913 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — |
| Lead | Pb | 0.120857243 | — | 0.120857243 | — | — | — | — | 0 | 0.120857243 | — | 0.120857243 | — | — | — | 0 | 0 | 10.39595808 | — | 10.39595808 | — | — |
| Mercury | Hg | 0.000197203 | — | 0.000197203 | — | — | — | — | 0 | 0.000197203 | — | 0.000197203 | — | — | — | 0 | 0 | 0.068427609 | — | 0.068427609 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — |
| Silver | Ag | 0.000914559 | — | 0.000914559 | — | — | — | — | 0 | 0.000914559 | — | 0.000914559 | — | — | — | 0 | 0 | 0.080033194 | — | 0.080033194 | — | — |
| Thallium | Tl | 0.000399286 | — | 0.000399286 | — | — | — | — | 0 | 0.000399286 | — | 0.000399286 | — | — | — | 0 | 0 | 0.170426906 | — | 0.170426906 | — | — |
| Uranium | U | 0.000518888 | — | 0.000518888 | — | — | — | — | 0 | 0.000518888 | — | 0.000518888 | — | — | — | 0 | 0 | 0.340864322 | — | 0.340864322 | — | — |
| Zinc | Zn | 0.134834739 | — | 0.134834739 | — | — | — | — | 0 | 0.134834739 | — | 0.134834739 | — | — | — | 0 | 0 | 31.86757897 | — | 31.86757897 | — | — |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| Media | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) | Total Dose to Little Brown Myotis (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0 | 0 | 0.10596494 | — | 0.10596494 | — | — | — | 0 | 0 | 0.119166768 | — | 0.119166768 | — | — | — | 0 | 0 | 0.119166768 | — |
| Antimony | Sb | — | 0 | 0 | 0.167664771 | — | 0.167664771 | — | — | — | 0 | 0 | 0.167736846 | — | 0.167736846 | — | — | — | 0 | 0 | 0.167736846 | — |
| Arsenic | As | — | 0 | 0 | 0.29014106 | — | 0.29014106 | — | — | — | 0 | 0 | 0.290218834 | — | 0.290218834 | — | — | — | 0 | 0 | 0.290218834 | — |
| Cadmium | Cd | — | 0 | 0 | 2.134561436 | — | 2.134561436 | — | — | — | 0 | 0 | 2.134860767 | — | 2.134860767 | — | — | — | 0 | 0 | 2.134860767 | — |
| Cobalt | Co | — | 0 | 0 | 0.463501215 | — | 0.463501215 | — | — | — | 0 | 0 | 0.463725262 | — | 0.463725262 | — | — | — | 0 | 0 | 0.463725262 | — |
| Copper | Cu | — | 0 | 0 | 6.195701849 | — | 6.195701849 | — | — | — | 0 | 0 | 6.19618801 | — | 6.19618801 | — | — | — | 0 | 0 | 6.19618801 | — |
| Cyanide | CN- | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |
| Lead | Pb | — | 0 | 0 | 10.50206227 | — | 10.50206227 | — | — | — | 0 | 0 | 10.50944715 | — | 10.50944715 | — | — | — | 0 | 0 | 10.50944715 | — |
| Mercury | Hg | — | 0 | 0 | 0.068580525 | — | 0.068580525 | — | — | — | 0 | 0 | 0.068602695 | — | 0.068602695 | — | — | — | 0 | 0 | 0.068602695 | — |
| Methyl-Mercury | Me-Hg | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | 0 | — | 0 | — |
| Silver | Ag | — | 0 | 0 | 0.080867956 | — | 0.080867956 | — | — | — | 0 | 0 | 0.0809079 | — | 0.0809079 | — | — | — | 0 | 0 | 0.0809079 | — |
| Thallium | Tl | — | 0 | 0 | 0.170805682 | — | 0.170805682 | — | — | — | 0 | 0 | 0.170815953 | — | 0.170815953 | — | — | — | 0 | 0 | 0.170815953 | — |
| Uranium | U | — | 0 | 0 | 0.341321146 | — | 0.341321146 | — | — | — | 0 | 0 | 0.341352221 | — | 0.341352221 | — | — | — | 0 | 0 | 0.341352221 | — |
| Zinc | Zn | — | 0 | 0 | 31.98296791 | — | 31.98296791 | — | — | — | 0 | 0 | 31.99270232 | — | 31.99270232 | — | — | — | 0 | 0 | 31.99270232 | — |

## Table VI-4A Estimated Ecological Exposure Dose: Little Brown Myotis

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Little Brown Myotis from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of — (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Water (dry) (mg/kg/d) | Dose to Little Brown Myotis from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.119166768 | — | — | — | 0 | 0 |
| Antimony | Sb | 0.167736846 | — | — | — | 0 | 0 |
| Arsenic | As | 0.290218834 | — | — | — | 0 | 0 |
| Cadmium | Cd | 2.134860767 | — | — | — | 0 | 0 |
| Cobalt | Co | 0.463725262 | — | — | — | 0 | 0 |
| Copper | Cu | 6.19618801 | — | — | — | 0 | 0 |
| Cyanide | CN- | — | — | — | — | 0 | — |
| Lead | Pb | 10.50944715 | — | — | — | 0 | 0 |
| Mercury | Hg | 0.068602695 | — | — | — | 0 | 0 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0 | — |
| Silver | Ag | 0.0809079 | — | — | — | 0 | 0 |
| Thallium | Tl | 0.170815953 | — | — | — | 0 | 0 |
| Uranium | U | 0.341352221 | — | — | — | 0 | 0 |
| Zinc | Zn | 31.99270232 | — | — | — | 0 | 0 |

## Table VI-4B Estimated Ecological Risk: Little Brown Myotis

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0 | 0 | 150.625644 | 15.0625644 | 150.625644 | 15.0625644 | 0 | 0 | 150.625644 | 15.0625644 | 1.217631998 | 0.1217632 | 150.625644 | 15.0625644 | 150.625644 | 15.0625644 | 150.625644 | 15.0625644 | 1.217631998 | 0.1217632 | 0 |
| Antimony | Sb | 1.333333333 | 0.133333333 | 12.51942685 | 1.251942685 | 12.51942685 | 1.251942685 | 0 | 0 | 12.51942685 | 1.251942685 | 0.164474161 | 0.016447416 | 12.51942685 | 1.251942685 | 12.51942685 | 1.251942685 | 12.51942685 | 1.251942685 | 1.497807495 | 0.149780749 | 1.333333333 |
| Arsenic | As | 2.225119063 | 0.222511906 | 12.87771987 | 1.287771987 | 12.87771987 | 1.287771987 | 0 | 0 | 12.87771987 | 1.287771987 | 0.142107879 | 0.014210788 | 12.87771987 | 1.287771987 | 12.87771987 | 1.287771987 | 12.87771987 | 1.287771987 | 2.367226942 | 0.236722694 | 2.225119063 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.06298877 | 0.052466782 | 0.664684681 | 0.553652127 | 0.664684681 | 0.553652127 | 0 | 0 | 0.664684681 | 0.553652127 | 0.005428884 | 0.004522014 | 0.664684681 | 0.553652127 | 0.664684681 | 0.553652127 | 0.664684681 | 0.553652127 | 0.068417654 | 0.056988796 | 0.06298877 |
| Copper | Cu | 0.529081722 | 0.408867645 | 0.844574061 | 0.652676124 | 0.844574061 | 0.652676124 | 0 | 0 | 0.844574061 | 0.652676124 | 0.009826653 | 0.007593913 | 0.844574061 | 0.652676124 | 0.844574061 | 0.652676124 | 0.844574061 | 0.652676124 | 0.538908375 | 0.416461558 | 0.529081722 |
| Cyanide | CN- | 0 | 0 | — | — | 0 | 0 | 0 | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead | Pb | 1.298573738 | 0.129857374 | 20.15429186 | 2.015429186 | 20.15429186 | 2.015429186 | 0 | 0 | 20.15429186 | 2.015429186 | 0.289118301 | 0.02891183 | 20.15429186 | 2.015429186 | 20.15429186 | 2.015429186 | 20.15429186 | 2.015429186 | 1.587692039 | 0.158769204 | 1.298573738 |
| Mercury | Hg | 0.068405492 | 0.068405492 | 0.479069929 | 0.479069929 | 0.479069929 | 0.479069929 | 0 | 0 | 0.479069929 | 0.479069929 | 0.003892693 | 0.003892693 | 0.479069929 | 0.479069929 | 0.479069929 | 0.479069929 | 0.479069929 | 0.479069929 | 0.072298185 | 0.072298185 | 0.068405492 |
| Methyl-Mercury | Me-Hg | 0 | 0 | — | — | 0 | 0 | 0 | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver | Ag | 0.01328793 | 0.001328793 | 0.144340722 | 0.014434072 | 0.144340722 | 0.014434072 | 0 | 0 | 0.144340722 | 0.014434072 | 0.002876368 | 0.000287637 | 0.144340722 | 0.014434072 | 0.144340722 | 0.014434072 | 0.144340722 | 0.014434072 | 0.016164299 | 0.00161643 | 0.01328793 |
| Thallium | Tl | 23.02927928 | 2.302927928 | 27.49754618 | 2.749754618 | 27.49754618 | 2.749754618 | 0 | 0 | 27.49754618 | 2.749754618 | 1.01023632 | 0.101023632 | 27.49754618 | 2.749754618 | 27.49754618 | 2.749754618 | 27.49754618 | 2.749754618 | 24.0395156 | 2.40395156 | 23.02927928 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.199111672 | 0.099555836 | 1.31321257 | 0.656606285 | 1.31321257 | 0.656606285 | 0 | 0 | 1.31321257 | 0.656606285 | 0.016237357 | 0.008118678 | 1.31321257 | 0.656606285 | 1.31321257 | 0.656606285 | 1.31321257 | 0.656606285 | 0.215349029 | 0.107674515 | 0.199111672 |

## Table VI-4B Estimated Ecological Risk: Little Brown Myotis

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0 | 0.006825364 | 0.000682536 | 0.054904114 | 0.005490411 | 0.061744439 | 0.006174444 | 0.061744439 | 0.006174444 | 0.006825364 | 0.000682536 | 0.054904114 | 0.005490411 | 0.061744439 | 0.006174444 | 0.061744439 | 0.006174444 | 0 | 0 | 0.006825364 | 0.000682536 |
| Antimony | Sb | 0.133333333 | 0.000575267 | 5.75267E-05 | 0.007984836 | 0.000798484 | 0.008561436 | 0.000856144 | 0.008561436 | 0.000856144 | 1.333908601 | 0.13339086 | 1.341318169 | 0.134131817 | 1.341894769 | 0.134189477 | 1.341894769 | 0.134189477 | 1.333333333 | 0.133333333 | 0.000575267 | 5.75267E-05 |
| Arsenic | As | 0.222511906 | 0.000596833 | 5.96833E-05 | 0.006735243 | 0.000673524 | 0.007333504 | 0.00073335 | 0.007333504 | 0.00073335 | 2.225715896 | 0.22257159 | 2.231854306 | 0.223185431 | 2.232452567 | 0.223245257 | 2.232452567 | 0.223245257 | 2.225119063 | 0.222511906 | 0.000596833 | 5.96833E-05 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.052466782 | 3.04956E-05 | 2.54015E-05 | 0.000244683 | 0.00020381 | 0.000275249 | 0.00022927 | 0.000275249 | 0.00022927 | 0.063019266 | 0.052492184 | 0.063233454 | 0.052670593 | 0.063264019 | 0.052696053 | 0.063264019 | 0.052696053 | 0.06298877 | 0.052466782 | 3.04956E-05 | 2.54015E-05 |
| Copper | Cu | 0.408867645 | 4.14328E-05 | 3.20188E-05 | 0.000465444 | 0.00035969 | 0.000506997 | 0.000391801 | 0.000506997 | 0.000391801 | 0.529123155 | 0.408899664 | 0.529547167 | 0.409227335 | 0.529588719 | 0.409259446 | 0.529588719 | 0.409259446 | 0.529081722 | 0.408867645 | 4.14328E-05 | 3.20188E-05 |
| Cyanide | CN- | 0 | — | — | 0 | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Lead | Pb | 0.129857374 | 0.000921021 | 9.21021E-05 | 0.014184045 | 0.001418405 | 0.015107155 | 0.001510716 | 0.015107155 | 0.001510716 | 1.29949476 | 0.129949476 | 1.312757783 | 0.131275778 | 1.313680894 | 0.131368089 | 1.313680894 | 0.131368089 | 1.298573738 | 0.129857374 | 0.000921021 | 9.21021E-05 |
| Mercury | Hg | 0.068405492 | 2.21172E-05 | 2.21172E-05 | 0.000175033 | 0.000175033 | 0.000197203 | 0.000197203 | 0.000197203 | 0.000197203 | 0.068427609 | 0.068427609 | 0.068580525 | 0.068580525 | 0.068602695 | 0.068602695 | 0.068602695 | 0.068602695 | 0.068405492 | 0.068405492 | 2.21172E-05 | 2.21172E-05 |
| Methyl-Mercury | Me-Hg | 0 | — | — | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Silver | Ag | 0.001328793 | 6.61999E-06 | 6.61999E-07 | 0.000145285 | 1.45285E-05 | 0.00015192 | 1.5192E-05 | 0.00015192 | 1.5192E-05 | 0.01329455 | 0.001329455 | 0.013433215 | 0.001343322 | 0.013439851 | 0.001343985 | 0.013439851 | 0.001343985 | 0.01328793 | 0.001328793 | 6.61999E-06 | 6.61999E-07 |
| Thallium | Tl | 2.302927928 | 0.001383652 | 0.000138365 | 0.052569696 | 0.00525697 | 0.053957623 | 0.005395762 | 0.053957623 | 0.005395762 | 23.03066293 | 2.303066293 | 23.08184898 | 2.308184898 | 23.0832369 | 2.30832369 | 23.0832369 | 2.30832369 | 23.02927928 | 2.302927928 | 0.001383652 | 0.000138365 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.099555836 | 6.06962E-05 | 3.03481E-05 | 0.000781877 | 0.000390939 | 0.000842717 | 0.000421359 | 0.000842717 | 0.000421359 | 0.199172369 | 0.099586184 | 0.199893549 | 0.099946775 | 0.199954389 | 0.099977195 | 0.199954389 | 0.099977195 | 0.199111672 | 0.099555836 | 6.06962E-05 | 3.03481E-05 |

## Table VI-4B Estimated Ecological Risk: Little Brown Myotis

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) | Risk to Little Brown Myotis (NOAELm) | Risk to Little Brown Myotis (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.054904114 | 0.005490411 | 0.061744439 | 0.006174444 | 0.061744439 | 0.006174444 | 0.006825364 | 0.000682536 | 0.054904114 | 0.005490411 | 0.061744439 | 0.006174444 |
| Antimony | Sb | 0.007984836 | 0.000798484 | 0.008561436 | 0.000856144 | 0.008561436 | 0.000856144 | 1.333908601 | 0.13339086 | 1.341318169 | 0.134131817 | 1.341894769 | 0.134189477 |
| Arsenic | As | 0.006735243 | 0.000673524 | 0.007333504 | 0.00073335 | 0.007333504 | 0.00073335 | 2.225715896 | 0.22257159 | 2.231854306 | 0.223185431 | 2.232452567 | 0.223245257 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000244683 | 0.00020381 | 0.000275249 | 0.00022927 | 0.000275249 | 0.00022927 | 0.063019266 | 0.052492184 | 0.063233454 | 0.052670593 | 0.063264019 | 0.052696053 |
| Copper | Cu | 0.000465444 | 0.00035969 | 0.000506997 | 0.000391801 | 0.000506997 | 0.000391801 | 0.529123155 | 0.408899664 | 0.529547167 | 0.409227335 | 0.529588719 | 0.409259446 |
| Cyanide | CN- | 0 | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lead | Pb | 0.014184045 | 0.001418405 | 0.015107155 | 0.001510716 | 0.015107155 | 0.001510716 | 1.29949476 | 0.129949476 | 1.312757783 | 0.131275778 | 1.313680894 | 0.131368089 |
| Mercury | Hg | 0.000175033 | 0.000175033 | 0.000197203 | 0.000197203 | 0.000197203 | 0.000197203 | 0.068427609 | 0.068427609 | 0.068580525 | 0.068580525 | 0.068602695 | 0.068602695 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Silver | Ag | 0.000145285 | 1.45285E-05 | 0.00015192 | 1.5192E-05 | 0.00015192 | 1.5192E-05 | 0.01329455 | 0.001329455 | 0.013433215 | 0.001343322 | 0.013439851 | 0.001343985 |
| Thallium | Tl | 0.052569696 | 0.00525697 | 0.053957623 | 0.005395762 | 0.053957623 | 0.005395762 | 23.03066293 | 2.303066293 | 23.08184898 | 2.308184898 | 23.0832369 | 2.30832369 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000781877 | 0.000390939 | 0.000842717 | 0.000421359 | 0.000842717 | 0.000421359 | 0.199172369 | 0.099586184 | 0.199893549 | 0.099946775 | 0.199954389 | 0.099977195 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.062404147 | — | — | — | 5.10598E-05 | 3.42776E-08 | 0.062353053 | — | 17.39730613 | 6.676673505 | 0.450366928 | 0.436061239 | 0.619313508 | 1.19311E-05 | — | 9.214879021 | 17.41523081 | 6.676673505 | 0.450366928 | 0.436061239 | 0.619328174 |
| Antimony | Sb | 0.000797703 | 0.000040575 | 2.23931E-06 | 0.00025 | 5.20878E-06 | 3.55354E-10 | 0.00021968 | 0.00028 | 0.00542641 | 0.000380982 | 2.10262E-05 | 0.002347393 | 4.79274E-05 | 2.58066E-09 | — | 0.00262908 | 0.005606496 | 0.000380982 | 2.10262E-05 | 0.002347393 | 4.8013E-05 |
| Arsenic | As | 0.002675725 | 4.91314E-05 | 9.20583E-06 | 0.000433898 | 2.43775E-05 | 1.83687E-09 | 0.000275521 | 0.001883589 | 0.013889157 | 0.000284345 | 5.32781E-05 | 0.002511155 | 0.00013923 | 9.46201E-09 | — | 0.01090114 | 0.015511041 | 0.000284345 | 5.32781E-05 | 0.002511155 | 0.000141112 |
| Cadmium | Cd | 0.003447647 | 1.89493E-05 | 3.71842E-06 | 0.003195353 | 1.40244E-05 | 2.75071E-10 | 6.37648E-06 | 0.000209225 | 0.010189951 | 5.6111E-05 | 1.10106E-05 | 0.009461768 | 4.15241E-05 | 8.13684E-10 | — | 0.000619537 | 0.010369985 | 5.6111E-05 | 1.10106E-05 | 0.009461768 | 4.15578E-05 |
| Cobalt | Co | 0.007330489 | 9.21334E-05 | 1.12995E-05 | 0.000692562 | 3.05052E-06 | 4.40708E-08 | 0.000173458 | 0.006357942 | 0.075523936 | 0.000972231 | 0.000119238 | 0.007308208 | 3.20614E-05 | 4.51638E-07 | — | 0.067091746 | 0.075883964 | 0.000972231 | 0.000119238 | 0.007308208 | 3.20868E-05 |
| Copper | Cu | 0.030201576 | 0.003997395 | 0.000857944 | 0.009285384 | 0.001921797 | 1.41611E-07 | 0.000346302 | 0.013792613 | 0.047656574 | 0.006381048 | 0.001369537 | 0.014822275 | 0.003066318 | 2.24029E-07 | — | 0.022017172 | 0.04928083 | 0.006381048 | 0.001369537 | 0.014822275 | 0.003070568 |
| Cyanide | CN- | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | — | — | — | — | — | — | — | — | 0.09007393 | — | — | — | 7.36994E-05 |
| Lead | Pb | 0.021281364 | 0.000170272 | 2.55233E-06 | 0.015582885 | 4.7283E-05 | 3.69963E-09 | 0.000256097 | 0.005222271 | 0.326318573 | 0.002642673 | 3.9613E-05 | 0.241851502 | 0.000733357 | 5.69825E-08 | — | 0.081051371 | 0.333699484 | 0.002642673 | 3.9613E-05 | 0.241851502 | 0.000734267 |
| Mercury | Hg | 0.000149381 | 1.59179E-05 | 1.07372E-06 | 0.000102608 | 3.35724E-06 | 9.11248E-10 | 4.45334E-06 | 2.19693E-05 | 0.001014956 | 0.000111479 | 7.5197E-06 | 0.000718605 | 2.34865E-05 | 6.26751E-09 | — | 0.000153859 | 0.001177089 | 0.000111479 | 7.5197E-06 | 0.000718605 | 2.36192E-05 |
| Methyl-Mercury | Me-Hg | 4.45337E-06 | — | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | — | — | — | — | — | — | — | — | 0.000162001 | — | — | — | 1.01991E-09 |
| Silver | Ag | 0.000217409 | 8.57063E-09 | 3.21179E-06 | 0.00011999 | 2.62257E-06 | 3.42917E-10 | 2.58598E-05 | 6.57158E-05 | 0.00208048 | 9.30989E-08 | 3.48882E-05 | 0.001303397 | 2.82577E-05 | 3.41611E-09 | — | 0.000713841 | 0.002084984 | 9.30989E-08 | 3.48882E-05 | 0.001303397 | 2.82614E-05 |
| Thallium | Tl | 0.000477537 | 4.0575E-07 | 8.08641E-07 | 0.000255625 | 3.01341E-06 | 9.69139E-09 | 7.76741E-05 | 0.00014 | 0.000477401 | 4.84476E-07 | 9.65538E-07 | 0.000305223 | 3.55399E-06 | 1.02122E-08 | — | 0.000167164 | 0.058285721 | 4.84476E-07 | 9.65538E-07 | 0.000305223 | 3.10272E-05 |
| Uranium | U | 0.002042759 | 4.0575E-06 | 1.61728E-07 | 0.00051125 | 4.91881E-07 | 8.05933E-11 | 0.001246798 | 0.00028 | 0.001491997 | 7.60604E-06 | 3.0317E-07 | 0.00095837 | 8.39744E-07 | 7.30272E-11 | — | 0.000524878 | 0.001942013 | 7.60604E-06 | 3.0317E-07 | 0.00095837 | 8.55593E-07 |
| Zinc | Zn | 0.208262256 | 0.006827287 | 0.001842105 | 0.047786801 | 0.112793655 | 4.56663E-09 | 0.001321404 | 0.037690998 | 1.364367961 | 0.045028394 | 0.012149343 | 0.315171017 | 0.743433586 | 2.98311E-08 | — | 0.248585591 | 1.368166585 | 0.045028394 | 0.012149343 | 0.315171017 | 0.74363221 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 1.1941E-05 | 0.01791 | 9.214879021 | 17.39730613 | 6.676673505 | 0.450366928 | 0.436061239 | 0.619313508 | 1.19311E-05 | — | 9.214879021 | 0.147392385 | 0.053973089 | 0.003640689 | 0.003525045 | 0.005011952 | 1.0016E-07 | 0.00675 | 0.074491509 | 17.45971028 | 6.676673505 |
| Antimony | Sb | 2.64663E-09 | 0.00018 | 0.00262908 | 0.00542641 | 0.000380982 | 2.10262E-05 | 0.002347393 | 4.79274E-05 | 2.58066E-09 | — | 0.00262908 | 0.000177038 | 5.00515E-06 | 2.76232E-07 | 3.08389E-05 | 6.79904E-07 | 7.26408E-11 | 0.000105698 | 3.45396E-05 | 0.005646195 | 0.000380982 |
| Arsenic | As | 1.06494E-08 | 0.00162 | 0.01090114 | 0.013889157 | 0.000284345 | 5.32781E-05 | 0.002511155 | 0.00013923 | 9.46201E-09 | — | 0.01090114 | 0.000304 | 3.13779E-06 | 5.87933E-07 | 2.7711E-05 | 1.71141E-06 | 2.14768E-10 | 0.000150555 | 0.000120296 | 0.014164998 | 0.000284345 |
| Cadmium | Cd | 8.216E-10 | 0.00018 | 0.000619537 | 0.010189951 | 5.6111E-05 | 1.10106E-05 | 0.009461768 | 4.15241E-05 | 8.13684E-10 | — | 0.000619537 | 0.000161324 | 7.89195E-07 | 1.54863E-07 | 0.000133079 | 5.874E-07 | 1.2236E-11 | 0.000018 | 8.71372E-06 | 0.010196329 | 5.6111E-05 |
| Cobalt | Co | 4.54276E-07 | 0.00036 | 0.067091746 | 0.075523936 | 0.000972231 | 0.000119238 | 0.007308208 | 3.20614E-05 | 4.51638E-07 | — | 0.067091746 | 0.000697856 | 7.9408E-06 | 9.73886E-07 | 5.96906E-05 | 2.67571E-07 | 4.28251E-09 | 0.000081 | 0.000547979 | 0.075697408 | 0.000972231 |
| Copper | Cu | 2.29966E-07 | 0.00162 | 0.022017172 | 0.047656574 | 0.006381048 | 0.001369537 | 0.014822275 | 0.003066318 | 2.24029E-07 | — | 0.022017172 | 0.001005669 | 7.42438E-05 | 1.59346E-05 | 0.000172458 | 3.68575E-05 | 4.25578E-09 | 0.00045 | 0.000256171 | 0.048003785 | 0.006381048 |
| Cyanide | CN- | 2.30888E-07 | 0.09 | — | — | — | — | — | — | — | — | — | 0.00045037 | — | — | — | 3.68497E-07 | 1.15444E-09 | 0.00045 | — | 0.000326222 | — |
| Lead | Pb | 5.77939E-08 | 0.00738 | 0.081051371 | 0.326318573 | 0.002642673 | 3.9613E-05 | 0.241851502 | 0.000733357 | 5.69825E-08 | — | 0.081051371 | 0.005131176 | 3.79098E-05 | 5.68258E-07 | 0.00346942 | 1.05757E-05 | 8.66904E-10 | 0.00045 | 0.001162702 | 0.326574702 | 0.002642673 |
| Mercury | Hg | 6.86123E-09 | 0.000162 | 0.000153859 | 0.001014956 | 0.000111479 | 7.5197E-06 | 0.000718605 | 2.34865E-05 | 6.26751E-09 | — | 0.000153859 | 2.62619E-05 | 9.05827E-07 | 6.11015E-08 | 5.83904E-06 | 2.0558E-07 | 1.16895E-10 | 0.000018 | 1.25019E-06 | 0.001019413 | 0.000111479 |
| Methyl-Mercury | Me-Hg | 4.63095E-11 | 0.000162 | — | — | — | — | — | — | — | — | — | 1.80001E-05 | — | — | — | 1.13323E-10 | 5.1455E-12 | 0.000018 | — | 4.45337E-06 | — |
| Silver | Ag | 3.42106E-09 | 0.0000045 | 0.000713841 | 0.00208048 | 9.30989E-08 | 3.48882E-05 | 0.001303397 | 2.82577E-05 | 3.41611E-09 | — | 0.000713841 | 5.03498E-05 | 1.85524E-09 | 6.95239E-07 | 2.59736E-05 | 5.70384E-07 | 7.78421E-11 | 8.88351E-06 | 1.42252E-05 | 0.002106361 | 9.30989E-08 |
| Thallium | Tl | 8.57241E-07 | 0.05778 | 0.000167164 | 0.000477401 | 4.84476E-07 | 9.65538E-07 | 0.000305223 | 3.55399E-06 | 1.02122E-08 | — | 0.000167164 | 4.45525E-05 | 1.77992E-08 | 3.5473E-08 | 1.12136E-05 | 1.43409E-07 | 7.70994E-10 | 0.000027 | 6.14145E-06 | 0.000555113 | 4.84476E-07 |
| Uranium | U | 8.80548E-11 | 0.00045 | 0.000524878 | 0.001491997 | 7.60604E-06 | 3.0317E-07 | 0.00095837 | 8.39744E-07 | 7.30272E-11 | — | 0.000524878 | 0.000473188 | 1.18128E-07 | 4.70849E-09 | 1.48843E-05 | 2.88913E-08 | 1.61618E-11 | 0.00045 | 8.15181E-06 | 0.002738839 | 7.60604E-06 |
| Zinc | Zn | 2.99499E-08 | 0.0036 | 0.248585591 | 1.364367961 | 0.045028394 | 0.012149343 | 0.315171017 | 0.743433586 | 2.98311E-08 | — | 0.248585591 | 0.019718841 | 0.000556758 | 0.000150222 | 0.003896966 | 0.009341232 | 4.57907E-10 | 0.0027 | 0.003073663 | 1.365762272 | 0.045028394 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.450366928 | 0.436061239 | 0.619364567 | 1.19654E-05 | 0.062353053 | 9.214879021 | 17.41523081 | 6.676673505 | 0.450366928 | 0.436061239 | 0.619328174 | 1.1941E-05 | 0.01791 | 9.214879021 | 17.45971028 | 6.676673505 | 0.450366928 | 0.436061239 | 0.619364567 | 1.19654E-05 | 0.062353053 |
| Antimony | Sb | 2.10262E-05 | 0.002347393 | 4.80318E-05 | 2.66117E-09 | 0.00021968 | 0.00262908 | 0.005606496 | 0.000380982 | 2.10262E-05 | 0.002347393 | 4.8013E-05 | 2.64663E-09 | 0.00018 | 0.00262908 | 0.005646195 | 0.000380982 | 2.10262E-05 | 0.002347393 | 4.80318E-05 | 2.66117E-09 | 0.00021968 |
| Arsenic | As | 5.32781E-05 | 0.002511155 | 0.00013955 | 9.66396E-09 | 0.000275521 | 0.01090114 | 0.015511041 | 0.000284345 | 5.32781E-05 | 0.002511155 | 0.000141112 | 1.06494E-08 | 0.00162 | 0.01090114 | 0.014164998 | 0.000284345 | 5.32781E-05 | 0.002511155 | 0.00013955 | 9.66396E-09 | 0.000275521 |
| Cadmium | Cd | 1.10106E-05 | 0.009461768 | 4.15253E-05 | 8.13964E-10 | 6.37648E-06 | 0.000619537 | 0.010369985 | 5.6111E-05 | 1.10106E-05 | 0.009461768 | 4.15578E-05 | 8.216E-10 | 0.00018 | 0.000619537 | 0.010196329 | 5.6111E-05 | 1.10106E-05 | 0.009461768 | 4.15253E-05 | 8.13964E-10 | 6.37648E-06 |
| Cobalt | Co | 0.000119238 | 0.007308208 | 3.20736E-05 | 4.52909E-07 | 0.000173458 | 0.067091746 | 0.075883964 | 0.000972231 | 0.000119238 | 0.007308208 | 3.20868E-05 | 4.54276E-07 | 0.00036 | 0.067091746 | 0.075697408 | 0.000972231 | 0.000119238 | 0.007308208 | 3.20736E-05 | 4.52909E-07 | 0.000173458 |
| Copper | Cu | 0.001369537 | 0.014822275 | 0.003067226 | 2.25298E-07 | 0.000346302 | 0.022017172 | 0.04928083 | 0.006381048 | 0.001369537 | 0.014822275 | 0.003070568 | 2.29966E-07 | 0.00162 | 0.022017172 | 0.048003785 | 0.006381048 | 0.001369537 | 0.014822275 | 0.003067226 | 2.25298E-07 | 0.000346302 |
| Cyanide | CN- | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | 0.09007393 | — | — | — | 7.36994E-05 | 2.30888E-07 | 0.09 | — | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 |
| Lead | Pb | 3.9613E-05 | 0.241851502 | 0.000733389 | 5.70107E-08 | 0.000256097 | 0.081051371 | 0.333699484 | 0.002642673 | 3.9613E-05 | 0.241851502 | 0.000734267 | 5.77939E-08 | 0.00738 | 0.081051371 | 0.326574702 | 0.002642673 | 3.9613E-05 | 0.241851502 | 0.000733389 | 5.70107E-08 | 0.000256097 |
| Mercury | Hg | 7.5197E-06 | 0.000718605 | 2.34902E-05 | 6.28384E-09 | 4.45334E-06 | 0.000153859 | 0.001177089 | 0.000111479 | 7.5197E-06 | 0.000718605 | 2.36192E-05 | 6.86123E-09 | 0.000162 | 0.000153859 | 0.001019413 | 0.000111479 | 7.5197E-06 | 0.000718605 | 2.34902E-05 | 6.28384E-09 | 4.45334E-06 |
| Methyl-Mercury | Me-Hg | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | 0.000162001 | — | — | — | 1.01991E-09 | 4.63095E-11 | 0.000162 | — | 4.45337E-06 | — | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 |
| Silver | Ag | 3.48882E-05 | 0.001303397 | 2.82789E-05 | 3.44454E-09 | 2.58598E-05 | 0.000713841 | 0.002084984 | 9.30989E-08 | 3.48882E-05 | 0.001303397 | 2.82614E-05 | 3.42106E-09 | 0.0000045 | 0.000713841 | 0.002106361 | 9.30989E-08 | 3.48882E-05 | 0.001303397 | 2.82789E-05 | 3.44454E-09 | 2.58598E-05 |
| Thallium | Tl | 9.65538E-07 | 0.000305223 | 3.59092E-06 | 1.13508E-08 | 7.76741E-05 | 0.000167164 | 0.058285721 | 4.84476E-07 | 9.65538E-07 | 0.000305223 | 3.10272E-05 | 8.57241E-07 | 0.05778 | 0.000167164 | 0.000555113 | 4.84476E-07 | 9.65538E-07 | 0.000305223 | 3.59092E-06 | 1.13508E-08 | 7.76741E-05 |
| Uranium | U | 3.0317E-07 | 0.00095837 | 8.83657E-07 | 1.14664E-10 | 0.001246798 | 0.000524878 | 0.001942013 | 7.60604E-06 | 3.0317E-07 | 0.00095837 | 8.55593E-07 | 8.80548E-11 | 0.00045 | 0.000524878 | 0.002738839 | 7.60604E-06 | 3.0317E-07 | 0.00095837 | 8.83657E-07 | 1.14664E-10 | 0.001246798 |
| Zinc | Zn | 0.012149343 | 0.315171017 | 0.743506493 | 2.98747E-08 | 0.001321404 | 0.248585591 | 1.368166585 | 0.045028394 | 0.012149343 | 0.315171017 | 0.74363221 | 2.99499E-08 | 0.0036 | 0.248585591 | 1.365762272 | 0.045028394 | 0.012149343 | 0.315171017 | 0.743506493 | 2.98747E-08 | 0.001321404 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Red Fox from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 9.214879021 | 0.147392385 | 0.053973089 | 0.003640689 | 0.003525045 | 0.005011952 | 1.0016E-07 | 0.00675 | 0.074491509 | 0.062404147 | — | — | — | 5.10598E-05 | 3.42776E-08 | 0.062353053 | — | 0.000788332 | 0.000302543 | 2.04077E-05 | 1.97594E-05 |
| Antimony | Sb | 0.00262908 | 0.000754957 | 4.55802E-05 | 2.51554E-06 | 0.000280839 | 5.78423E-06 | 3.47484E-10 | 0.000105698 | 0.00031454 | 0.000797703 | 0.000040575 | 2.23931E-06 | 0.00025 | 5.20878E-06 | 3.55354E-10 | 0.00021968 | 0.00028 | 2.49343E-07 | 1.75061E-08 | 9.66153E-10 | 1.07863E-07 |
| Arsenic | As | 0.01090114 | 0.002703883 | 5.22692E-05 | 9.79376E-06 | 0.000461609 | 2.57686E-05 | 1.84969E-09 | 0.000150555 | 0.002003885 | 0.002675725 | 4.91314E-05 | 9.20583E-06 | 0.000433898 | 2.43775E-05 | 1.83687E-09 | 0.000275521 | 0.001883589 | 6.43709E-07 | 1.31783E-08 | 2.46924E-09 | 1.16382E-07 |
| Cadmium | Cd | 0.000619537 | 0.003602593 | 1.97385E-05 | 3.87328E-06 | 0.003328432 | 1.46106E-05 | 2.87027E-10 | 0.000018 | 0.000217939 | 0.003447647 | 1.89493E-05 | 3.71842E-06 | 0.003195353 | 1.40244E-05 | 2.75071E-10 | 6.37648E-06 | 0.000209225 | 4.8231E-07 | 2.65584E-09 | 5.21153E-10 | 4.47843E-07 |
| Cobalt | Co | 0.067091746 | 0.007854874 | 0.000100074 | 1.22734E-05 | 0.000752252 | 3.30587E-06 | 4.70819E-08 | 0.000081 | 0.006905921 | 0.007330489 | 9.21334E-05 | 1.12995E-05 | 0.000692562 | 3.05052E-06 | 4.40708E-08 | 0.000173458 | 0.006357942 | 3.46503E-06 | 4.46058E-08 | 5.4706E-09 | 3.35299E-07 |
| Copper | Cu | 0.022017172 | 0.030860033 | 0.004071639 | 0.000873878 | 0.009457842 | 0.001957746 | 1.44598E-07 | 0.00045 | 0.014048784 | 0.030201576 | 0.003997395 | 0.000857944 | 0.009285384 | 0.001921797 | 1.41611E-07 | 0.000346302 | 0.013792613 | 2.33792E-06 | 3.13039E-07 | 6.71863E-08 | 7.27146E-07 |
| Cyanide | CN- | — | 0.00045037 | — | — | — | 3.68497E-07 | 1.15444E-09 | 0.00045 | — | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | — | — | — | — |
| Lead | Pb | 0.081051371 | 0.026156412 | 0.000208181 | 3.12058E-06 | 0.019052304 | 5.7827E-05 | 4.53838E-09 | 0.00045 | 0.006384973 | 0.021281364 | 0.000170272 | 2.55233E-06 | 0.015582885 | 4.7283E-05 | 3.69963E-09 | 0.000256097 | 0.005222271 | 1.49123E-05 | 1.20766E-07 | 1.81025E-09 | 1.10523E-05 |
| Mercury | Hg | 0.000153859 | 0.000171185 | 1.68237E-05 | 1.13482E-06 | 0.000108447 | 3.55918E-06 | 1.01182E-09 | 0.000018 | 2.32195E-05 | 0.000149381 | 1.59179E-05 | 1.07372E-06 | 0.000102608 | 3.35724E-06 | 9.11248E-10 | 4.45334E-06 | 2.19693E-05 | 4.68573E-08 | 5.14665E-09 | 3.47161E-10 | 3.31757E-08 |
| Methyl-Mercury | Me-Hg | — | 1.80001E-05 | — | — | — | 1.13323E-10 | 5.1455E-12 | 0.000018 | — | 4.45337E-06 | — | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | — | — | — | — |
| Silver | Ag | 0.000713841 | 0.000241878 | 1.04259E-08 | 3.90702E-06 | 0.000145964 | 3.17177E-06 | 3.92328E-10 | 8.88351E-06 | 7.9941E-05 | 0.000217409 | 8.57063E-09 | 3.21179E-06 | 0.00011999 | 2.62257E-06 | 3.42917E-10 | 2.58598E-05 | 6.57158E-05 | 9.54184E-08 | 4.26985E-12 | 1.6001E-09 | 5.97785E-08 |
| Thallium | Tl | 0.000167164 | 0.000444377 | 4.23549E-07 | 8.44114E-07 | 0.000266839 | 3.11989E-06 | 9.32371E-09 | 0.000027 | 0.000146141 | 0.000477537 | 4.0575E-07 | 8.08641E-07 | 0.000255625 | 3.01341E-06 | 9.69139E-09 | 7.76741E-05 | 0.00014 | 2.40224E-08 | 2.43784E-11 | 4.8585E-11 | 1.53585E-08 |
| Uranium | U | 0.000524878 | 0.001269105 | 4.17563E-06 | 1.66437E-07 | 0.000526134 | 4.76859E-07 | 5.51187E-11 | 0.00045 | 0.000288152 | 0.002042759 | 4.0575E-06 | 1.61728E-07 | 0.00051125 | 4.91881E-07 | 8.05933E-11 | 0.001246798 | 0.00028 | 7.23646E-08 | 3.68907E-10 | 1.47043E-11 | 4.64828E-08 |
| Zinc | Zn | 0.248585591 | 0.226586787 | 0.007384045 | 0.001992327 | 0.051683767 | 0.122061981 | 4.98096E-09 | 0.0027 | 0.040764661 | 0.208262256 | 0.006827287 | 0.001842105 | 0.047786801 | 0.112793655 | 4.56663E-09 | 0.001321404 | 0.037690998 | 6.30606E-05 | 2.0812E-06 | 5.61538E-07 | 1.45671E-05 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 2.80632E-05 | 5.4064E-10 | — | 0.000417558 | 0.006341441 | 0.002433695 | 0.000164162 | 0.000158947 | 0.000225744 | 4.34898E-09 | — | 0.003358889 | 0.007131501 | 0.002736901 | 0.000184614 | 0.00017875 | 0.000253869 | 4.89081E-09 | — | 0.003777362 | 0.069519664 |
| Antimony | Sb | 2.20226E-09 | 1.18581E-13 | — | 1.20806E-07 | 0.000556264 | 2.42989E-07 | 1.34104E-08 | 1.49716E-06 | 2.9329E-07 | 2.04146E-10 | 0.00055254 | 1.67682E-06 | 3.71086E-06 | 2.60535E-07 | 1.43788E-08 | 1.60527E-06 | 3.27752E-08 | 1.76479E-12 | — | 1.7979E-06 | 0.000223495 |
| Arsenic | As | 6.45276E-09 | 4.38528E-13 | — | 5.05226E-07 | 0.002255192 | 1.48717E-07 | 2.78653E-08 | 1.31337E-06 | 2.68252E-06 | 1.65072E-09 | 0.002245317 | 5.70146E-06 | 7.90949E-06 | 1.61926E-07 | 3.03404E-08 | 1.43003E-06 | 7.92874E-08 | 5.38835E-12 | — | 6.2079E-06 | 0.000283751 |
| Cadmium | Cd | 1.96541E-09 | 3.85132E-14 | — | 2.93239E-08 | 1.5325E-05 | 3.8484E-08 | 7.55169E-09 | 6.48941E-06 | 3.0039E-08 | 9.24613E-13 | 8.33456E-06 | 4.24913E-07 | 7.47239E-06 | 4.11467E-08 | 8.07419E-09 | 6.93841E-06 | 3.045E-08 | 5.96682E-13 | — | 4.54312E-07 | 2.00955E-05 |
| Cobalt | Co | 1.47097E-09 | 2.07211E-11 | — | 3.07816E-06 | 2.78018E-05 | 3.57897E-07 | 4.38937E-08 | 2.69029E-06 | 1.18024E-08 | 1.66257E-10 | — | 2.46978E-05 | 3.12748E-05 | 4.02606E-07 | 4.93769E-08 | 3.02636E-06 | 1.32768E-08 | 1.87025E-10 | — | 2.7783E-05 | 0.000182372 |
| Copper | Cu | 1.50426E-07 | 1.09903E-11 | — | 1.08011E-06 | 0.000335674 | 3.51659E-06 | 7.54751E-07 | 8.16855E-06 | 2.4996E-06 | 1.25445E-09 | 0.0003086 | 1.21337E-05 | 2.86082E-05 | 3.83053E-06 | 8.22131E-07 | 8.89779E-06 | 1.84071E-06 | 1.34484E-10 | — | 1.32169E-05 | 0.000391331 |
| Cyanide | CN- | — | — | — | — | 0.000291157 | — | — | — | 2.38228E-07 | 7.46328E-10 | 0.000290918 | — | — | — | — | — | — | — | — | — | 0.000326211 |
| Lead | Pb | 3.35133E-08 | 2.60402E-12 | — | 3.70393E-06 | 0.000501956 | 1.85984E-06 | 2.78785E-08 | 0.000170209 | 5.4968E-07 | 7.00377E-11 | 0.000272268 | 5.70418E-05 | 0.0002446 | 1.98088E-06 | 2.96929E-08 | 0.000181286 | 5.49706E-07 | 4.27127E-11 | — | 6.07541E-05 | 0.000570676 |
| Mercury | Hg | 1.0843E-09 | 2.89351E-13 | — | 7.1032E-09 | 3.70825E-07 | 4.07301E-08 | 2.7474E-09 | 2.6255E-07 | 8.58105E-09 | 2.2899E-12 | — | 5.62141E-08 | 4.17793E-07 | 4.58889E-08 | 3.09538E-09 | 2.95804E-07 | 9.6679E-09 | 2.57994E-12 | — | 6.3334E-08 | 4.30555E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.88459E-06 |
| Silver | Ag | 1.296E-09 | 1.56675E-13 | — | 3.27393E-08 | 2.09409E-06 | 9.37078E-11 | 3.51164E-08 | 1.31192E-06 | 2.84425E-08 | 3.43846E-12 | — | 7.1851E-07 | 2.18973E-06 | 9.79875E-11 | 3.67201E-08 | 1.37184E-06 | 2.97415E-08 | 3.59549E-12 | — | 7.51324E-07 | 2.80707E-05 |
| Thallium | Tl | 1.78834E-10 | 5.13867E-13 | — | 8.41152E-09 | 9.12692E-07 | 9.26219E-10 | 1.84591E-09 | 5.83524E-07 | 6.7945E-09 | 1.95236E-11 | — | 3.19583E-07 | 9.36789E-07 | 9.50673E-10 | 1.89465E-09 | 5.9893E-07 | 6.97389E-09 | 2.0039E-11 | — | 3.2802E-07 | 7.8649E-05 |
| Uranium | U | 4.07292E-11 | 3.54196E-15 | — | 2.54575E-08 | 1.13915E-06 | 5.80724E-09 | 2.31471E-10 | 7.31719E-07 | 6.41148E-10 | 5.57566E-14 | — | 4.00746E-07 | 1.21171E-06 | 6.17717E-09 | 2.46216E-10 | 7.78332E-07 | 6.8199E-10 | 5.93084E-14 | — | 4.26275E-07 | 0.001248054 |
| Zinc | Zn | 3.43612E-05 | 1.37878E-12 | — | 1.14895E-05 | 0.002229551 | 2.68096E-05 | 7.23363E-06 | 0.000187651 | 0.000516739 | 6.20625E-11 | 0.001343113 | 0.000148006 | 0.000875545 | 2.88957E-05 | 7.7965E-06 | 0.000202252 | 0.000477078 | 1.91433E-11 | — | 0.000159523 | 0.003870356 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.002736901 | 0.000184614 | 0.00017875 | 0.000304916 | 3.91596E-08 | 0.062337082 | 0.003777362 | 0.063192479 | 0.000302543 | 2.04077E-05 | 1.97594E-05 | 7.9123E-05 | 3.48182E-08 | 0.062353053 | 0.000417558 | 0.06875557 | 0.002433695 | 0.000164162 | 0.000158947 | 0.000276812 | 3.8632E-08 |
| Antimony | Sb | 2.60535E-07 | 1.43788E-08 | 1.60527E-06 | 1.37229E-07 | 8.2275E-11 | 0.00021968 | 1.7979E-06 | 0.000797953 | 4.05925E-05 | 2.24028E-06 | 0.000250108 | 5.21098E-06 | 3.55472E-10 | 0.00021968 | 0.000280121 | 0.001134183 | 4.0818E-05 | 2.25272E-06 | 0.000251497 | 5.39761E-06 | 4.78989E-10 |
| Arsenic | As | 1.61926E-07 | 3.03404E-08 | 1.43003E-06 | 3.99521E-07 | 2.07339E-10 | 0.000275521 | 6.2079E-06 | 0.002676368 | 4.91446E-05 | 9.2083E-06 | 0.000434015 | 2.43839E-05 | 1.83731E-09 | 0.000275521 | 0.001884094 | 0.004655076 | 4.92801E-05 | 9.2337E-06 | 0.000435212 | 2.67398E-05 | 3.28564E-09 |
| Cadmium | Cd | 4.11467E-08 | 8.07419E-09 | 6.93841E-06 | 3.28115E-08 | 1.15172E-12 | 1.26207E-05 | 4.54312E-07 | 0.003448129 | 1.8952E-05 | 3.71894E-06 | 0.003195801 | 1.40263E-05 | 2.7511E-10 | 6.37648E-06 | 0.000209254 | 0.003456594 | 1.89878E-05 | 3.72597E-06 | 0.003201842 | 1.40532E-05 | 2.75715E-10 |
| Cobalt | Co | 4.02606E-07 | 4.93769E-08 | 3.02636E-06 | 2.39195E-08 | 1.29445E-09 | 0.000151085 | 2.7783E-05 | 0.007333954 | 9.2178E-05 | 1.1305E-05 | 0.000692897 | 3.05199E-06 | 4.40915E-08 | 0.000173458 | 0.00636102 | 0.007347756 | 9.24913E-05 | 1.13434E-05 | 0.000695252 | 3.06158E-06 | 4.41599E-08 |
| Copper | Cu | 3.83053E-06 | 8.22131E-07 | 8.89779E-06 | 2.78998E-06 | 1.46034E-09 | 0.000361772 | 1.32169E-05 | 0.030203914 | 0.003997708 | 0.000858011 | 0.009286111 | 0.001921948 | 1.41622E-07 | 0.000346302 | 0.013793693 | 0.03022784 | 0.004000911 | 0.000858698 | 0.009293553 | 0.001923487 | 1.41735E-07 |
| Cyanide | CN- | — | — | — | 2.6691E-07 | 8.36183E-10 | 0.000325944 | — | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 |
| Lead | Pb | 1.98088E-06 | 2.96929E-08 | 0.000181286 | 5.89898E-07 | 7.85592E-11 | 0.000326036 | 6.07541E-05 | 0.021296276 | 0.000170392 | 2.55414E-06 | 0.015593937 | 4.73165E-05 | 3.70224E-09 | 0.000256097 | 0.005225975 | 0.021527191 | 0.000172132 | 2.58021E-06 | 0.015753093 | 4.78011E-05 | 3.74151E-09 |
| Mercury | Hg | 4.58889E-08 | 3.09538E-09 | 2.95804E-07 | 1.28489E-08 | 1.68164E-11 | 3.88456E-06 | 6.3334E-08 | 0.000149427 | 1.59231E-05 | 1.07407E-06 | 0.000102641 | 3.35833E-06 | 9.11537E-10 | 4.45334E-06 | 2.19764E-05 | 0.000149752 | 1.59586E-05 | 1.07647E-06 | 0.000102871 | 3.36582E-06 | 9.13539E-10 |
| Methyl-Mercury | Me-Hg | — | — | — | 2.44561E-11 | 1.11045E-12 | 3.88456E-06 | — | 4.45337E-06 | — | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | 4.4538E-06 | — | — | — | 2.80397E-11 | 1.27316E-12 |
| Silver | Ag | 9.79875E-11 | 3.67201E-08 | 1.37184E-06 | 5.09177E-08 | 3.20275E-11 | 2.58598E-05 | 7.51324E-07 | 0.000217504 | 8.5749E-09 | 3.21339E-06 | 0.00012005 | 2.62386E-06 | 3.43074E-10 | 2.58598E-05 | 6.57485E-05 | 0.000219503 | 8.66434E-09 | 3.2469E-06 | 0.000121302 | 2.65101E-06 | 3.46356E-10 |
| Thallium | Tl | 9.50673E-10 | 1.89465E-09 | 5.9893E-07 | 4.39064E-08 | 1.15871E-09 | 7.76741E-05 | 3.2802E-07 | 0.000477561 | 4.05774E-07 | 8.08689E-07 | 0.00025564 | 3.01359E-06 | 9.6919E-09 | 7.76741E-05 | 0.000140008 | 0.000478449 | 4.06676E-07 | 8.10487E-07 | 0.000256209 | 3.0202E-06 | 9.71091E-09 |
| Uranium | U | 6.17717E-09 | 2.46216E-10 | 7.78332E-07 | 4.45952E-08 | 4.16957E-11 | 0.001246798 | 4.26275E-07 | 0.002042832 | 4.05787E-06 | 1.61743E-07 | 0.000511296 | 4.91922E-07 | 8.05969E-11 | 0.001246798 | 0.000280025 | 0.002043898 | 4.06331E-06 | 1.6196E-07 | 0.000511982 | 4.92522E-07 | 8.06491E-11 |
| Zinc | Zn | 2.88957E-05 | 7.7965E-06 | 0.000202252 | 0.000633671 | 1.12759E-10 | 0.002838217 | 0.000159523 | 0.208325317 | 0.006829368 | 0.001842667 | 0.047801368 | 0.112828017 | 4.56801E-09 | 0.001321404 | 0.037702488 | 0.209097497 | 0.006854096 | 0.001849339 | 0.047974452 | 0.113237488 | 4.58511E-09 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.062363026 | 0.003358889 | 0.069535648 | 0.002736901 | 0.000184614 | 0.00017875 | 0.000304929 | 3.91684E-08 | 0.062353053 | 0.003777362 | 0.069519664 | 0.002736901 | 0.000184614 | 0.00017875 | 0.000304916 | 3.91596E-08 | 0.062337082 | 0.003777362 | 0.062404147 | — | — |
| Antimony | Sb | 0.00055254 | 0.000281677 | 0.000801414 | 4.08355E-05 | 2.25369E-06 | 0.000251605 | 5.24155E-06 | 3.57119E-10 | 0.00021968 | 0.000281798 | 0.000801414 | 4.08355E-05 | 2.25369E-06 | 0.000251605 | 5.24155E-06 | 3.57119E-10 | 0.00021968 | 0.000281798 | 0.000797703 | 0.000040575 | 2.23931E-06 |
| Arsenic | As | 0.002245317 | 0.001889291 | 0.002683634 | 4.92933E-05 | 9.23617E-06 | 0.000435328 | 2.44568E-05 | 1.84226E-09 | 0.000275521 | 0.001889797 | 0.002683634 | 4.92933E-05 | 9.23617E-06 | 0.000435328 | 2.44568E-05 | 1.84226E-09 | 0.000275521 | 0.001889797 | 0.002675725 | 4.91314E-05 | 9.20583E-06 |
| Cadmium | Cd | 8.33456E-06 | 0.00020965 | 0.003455119 | 1.89905E-05 | 3.72649E-06 | 0.003202291 | 1.40548E-05 | 2.75668E-10 | 6.37648E-06 | 0.000209679 | 0.003461365 | 1.89905E-05 | 3.72649E-06 | 0.003202291 | 1.4056E-05 | 2.75943E-10 | 1.26207E-05 | 0.000209679 | 0.003447647 | 1.89493E-05 | 3.71842E-06 |
| Cobalt | Co | 0.000162924 | 0.00638264 | 0.007361764 | 9.2536E-05 | 1.13489E-05 | 0.000695588 | 3.06379E-06 | 4.42578E-08 | 0.000173458 | 0.006385725 | 0.007344699 | 9.2536E-05 | 1.13489E-05 | 0.000695588 | 3.06259E-06 | 4.41328E-08 | 0.000156394 | 0.006385725 | 0.007330489 | 9.21334E-05 | 1.12995E-05 |
| Copper | Cu | 0.000346302 | 0.013804747 | 0.030230184 | 0.004001225 | 0.000858766 | 0.009294282 | 0.001923638 | 1.41746E-07 | 0.000346302 | 0.01380583 | 0.030245695 | 0.004001225 | 0.000858766 | 0.009294282 | 0.001923678 | 1.41803E-07 | 0.000361772 | 0.01380583 | 0.030201576 | 0.003997395 | 0.000857944 |
| Cyanide | CN- | 0.000325955 | — | 0.000326222 | — | — | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | 0.000326211 | — | — | — | 2.6691E-07 | 8.36183E-10 | 0.000325944 | — | 0.000326222 | — | — |
| Lead | Pb | 0.000272268 | 0.005279313 | 0.021525964 | 0.000172253 | 2.58202E-06 | 0.015764171 | 4.78327E-05 | 3.74234E-09 | 0.000256097 | 0.005283025 | 0.021595912 | 0.000172253 | 2.58202E-06 | 0.015764171 | 4.78413E-05 | 3.75003E-09 | 0.000326036 | 0.005283025 | 0.021281364 | 0.000170272 | 2.55233E-06 |
| Mercury | Hg | 4.45377E-06 | 2.20255E-05 | 0.000149798 | 1.59638E-05 | 1.07682E-06 | 0.000102904 | 3.36691E-06 | 9.13827E-10 | 4.45334E-06 | 2.20326E-05 | 0.000149229 | 1.59638E-05 | 1.07682E-06 | 0.000102904 | 3.36644E-06 | 9.11743E-10 | 3.88456E-06 | 2.20326E-05 | 0.000149381 | 1.59179E-05 | 1.07372E-06 |
| Methyl-Mercury | Me-Hg | 4.45377E-06 | — | 4.45337E-06 | — | — | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | 3.88459E-06 | — | — | — | 2.44561E-11 | 1.11045E-12 | 3.88456E-06 | — | 4.45337E-06 | — | — |
| Silver | Ag | 2.58598E-05 | 6.64343E-05 | 0.000219599 | 8.66862E-09 | 3.24851E-06 | 0.000121362 | 2.65231E-06 | 3.46513E-10 | 2.58598E-05 | 6.64671E-05 | 0.000219599 | 8.66862E-09 | 3.24851E-06 | 0.000121362 | 2.65231E-06 | 3.46513E-10 | 2.58598E-05 | 6.64671E-05 | 0.000217409 | 8.57063E-09 | 3.21179E-06 |
| Thallium | Tl | 7.76741E-05 | 0.00014032 | 0.000478473 | 4.06701E-07 | 8.10535E-07 | 0.000256224 | 3.02038E-06 | 9.71143E-09 | 7.76741E-05 | 0.000140328 | 0.000478473 | 4.06701E-07 | 8.10535E-07 | 0.000256224 | 3.02038E-06 | 9.71143E-09 | 7.76741E-05 | 0.000140328 | 0.000477537 | 4.0575E-07 | 8.08641E-07 |
| Uranium | U | 0.001246798 | 0.000280401 | 0.002043971 | 4.06368E-06 | 1.61974E-07 | 0.000512028 | 4.92563E-07 | 8.06527E-11 | 0.001246798 | 0.000280426 | 0.002043971 | 4.06368E-06 | 1.61974E-07 | 0.000512028 | 4.92563E-07 | 8.06527E-11 | 0.001246798 | 0.000280426 | 0.002042759 | 4.0575E-06 | 1.61728E-07 |
| Zinc | Zn | 0.001343113 | 0.037839004 | 0.209137801 | 0.006856183 | 0.001849902 | 0.047989053 | 0.113270733 | 4.58578E-09 | 0.001321404 | 0.037850521 | 0.210738302 | 0.006856183 | 0.001849902 | 0.047989053 | 0.113354421 | 4.63581E-09 | 0.002838217 | 0.037850521 | 0.208262256 | 0.006827287 | 0.001842105 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 5.10598E-05 | 3.42776E-08 | 0.062353053 | — | 0.000760268 | 0.000302543 | 2.04077E-05 | 1.97594E-05 | — | — | — | 0.000417558 | 0.006115693 | 0.002433695 | 0.000164162 | 0.000158947 | — | — | — | 0.003358889 |
| Antimony | Sb | 0.00025 | 5.20878E-06 | 3.55354E-10 | 0.00021968 | 0.00028 | 2.47141E-07 | 1.75061E-08 | 9.66153E-10 | 1.07863E-07 | — | — | — | 1.20806E-07 | 0.00055597 | 2.42989E-07 | 1.34104E-08 | 1.49716E-06 | — | — | 0.00055254 | 1.67682E-06 |
| Arsenic | As | 0.000433898 | 2.43775E-05 | 1.83687E-09 | 0.000275521 | 0.001883589 | 6.37256E-07 | 1.31783E-08 | 2.46924E-09 | 1.16382E-07 | — | — | — | 5.05226E-07 | 0.002252508 | 1.48717E-07 | 2.78653E-08 | 1.31337E-06 | — | — | 0.002245317 | 5.70146E-06 |
| Cadmium | Cd | 0.003195353 | 1.40244E-05 | 2.75071E-10 | 6.37648E-06 | 0.000209225 | 4.80344E-07 | 2.65584E-09 | 5.21153E-10 | 4.47843E-07 | — | — | — | 2.93239E-08 | 1.52949E-05 | 3.8484E-08 | 7.55169E-09 | 6.48941E-06 | — | — | 8.33456E-06 | 4.24913E-07 |
| Cobalt | Co | 0.000692562 | 3.05052E-06 | 4.40708E-08 | 0.000173458 | 0.006357942 | 3.46353E-06 | 4.46058E-08 | 5.4706E-09 | 3.35299E-07 | — | — | — | 3.07816E-06 | 2.77899E-05 | 3.57897E-07 | 4.38937E-08 | 2.69029E-06 | — | — | — | 2.46978E-05 |
| Copper | Cu | 0.009285384 | 0.001921797 | 1.41611E-07 | 0.000346302 | 0.013792613 | 2.18748E-06 | 3.13039E-07 | 6.71863E-08 | 7.27146E-07 | — | — | — | 1.08011E-06 | 0.000333173 | 3.51659E-06 | 7.54751E-07 | 8.16855E-06 | — | — | 0.0003086 | 1.21337E-05 |
| Cyanide | CN- | — | 2.66918E-07 | 8.36211E-10 | 0.000325955 | — | — | — | — | — | — | — | — | — | 0.000290918 | — | — | — | — | — | 0.000290918 | — |
| Lead | Pb | 0.015582885 | 4.7283E-05 | 3.69963E-09 | 0.000256097 | 0.005222271 | 1.48788E-05 | 1.20766E-07 | 1.81025E-09 | 1.10523E-05 | — | — | — | 3.70393E-06 | 0.000501406 | 1.85984E-06 | 2.78785E-08 | 0.000170209 | — | — | 0.000272268 | 5.70418E-05 |
| Mercury | Hg | 0.000102608 | 3.35724E-06 | 9.11248E-10 | 4.45334E-06 | 2.19693E-05 | 4.57727E-08 | 5.14665E-09 | 3.47161E-10 | 3.31757E-08 | — | — | — | 7.1032E-09 | 3.62241E-07 | 4.07301E-08 | 2.7474E-09 | 2.6255E-07 | — | — | — | 5.62141E-08 |
| Methyl-Mercury | Me-Hg | — | 2.80369E-11 | 1.27304E-12 | 4.45334E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 0.00011999 | 2.62257E-06 | 3.42917E-10 | 2.58598E-05 | 6.57158E-05 | 9.41223E-08 | 4.26985E-12 | 1.6001E-09 | 5.97785E-08 | — | — | — | 3.27393E-08 | 2.06564E-06 | 9.37078E-11 | 3.51164E-08 | 1.31192E-06 | — | — | — | 7.1851E-07 |
| Thallium | Tl | 0.000255625 | 3.01341E-06 | 9.69139E-09 | 7.76741E-05 | 0.00014 | 2.3843E-08 | 2.43784E-11 | 4.8585E-11 | 1.53585E-08 | — | — | — | 8.41152E-09 | 9.05878E-07 | 9.26219E-10 | 1.84591E-09 | 5.83524E-07 | — | — | — | 3.19583E-07 |
| Uranium | U | 0.00051125 | 4.91881E-07 | 8.05933E-11 | 0.001246798 | 0.00028 | 7.23239E-08 | 3.68907E-10 | 1.47043E-11 | 4.64828E-08 | — | — | — | 2.54575E-08 | 1.1385E-06 | 5.80724E-09 | 2.31471E-10 | 7.31719E-07 | — | — | — | 4.00746E-07 |
| Zinc | Zn | 0.047786801 | 0.112793655 | 4.56663E-09 | 0.001321404 | 0.037690998 | 2.86994E-05 | 2.0812E-06 | 5.61538E-07 | 1.45671E-05 | — | — | — | 1.14895E-05 | 0.001712812 | 2.68096E-05 | 7.23363E-06 | 0.000187651 | — | — | 0.001343113 | 0.000148006 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.006877627 | 0.002736901 | 0.000184614 | 0.00017875 | — | — | — | 0.003777362 | 0.069214709 | 0.002736901 | 0.000184614 | 0.00017875 | — | — | 0.062337082 | 0.003777362 | 0.063113321 | 0.000302543 | 2.04077E-05 | 1.97594E-05 | — |
| Antimony | Sb | 3.67808E-06 | 2.60535E-07 | 1.43788E-08 | 1.60527E-06 | — | — | — | 1.7979E-06 | 0.000223358 | 2.60535E-07 | 1.43788E-08 | 1.60527E-06 | — | — | 0.00021968 | 1.7979E-06 | 0.000792741 | 4.05925E-05 | 2.24028E-06 | 0.000250108 | — |
| Arsenic | As | 7.8302E-06 | 1.61926E-07 | 3.03404E-08 | 1.43003E-06 | — | — | — | 6.2079E-06 | 0.000283351 | 1.61926E-07 | 3.03404E-08 | 1.43003E-06 | — | — | 0.000275521 | 6.2079E-06 | 0.002651983 | 4.91446E-05 | 9.2083E-06 | 0.000434015 | — |
| Cadmium | Cd | 7.44194E-06 | 4.11467E-08 | 8.07419E-09 | 6.93841E-06 | — | — | — | 4.54312E-07 | 2.00627E-05 | 4.11467E-08 | 8.07419E-09 | 6.93841E-06 | — | — | 1.26207E-05 | 4.54312E-07 | 0.003434102 | 1.8952E-05 | 3.71894E-06 | 0.003195801 | — |
| Cobalt | Co | 3.12614E-05 | 4.02606E-07 | 4.93769E-08 | 3.02636E-06 | — | — | — | 2.7783E-05 | 0.000182347 | 4.02606E-07 | 4.93769E-08 | 3.02636E-06 | — | — | 0.000151085 | 2.7783E-05 | 0.007330858 | 9.2178E-05 | 1.1305E-05 | 0.000692897 | — |
| Copper | Cu | 2.67673E-05 | 3.83053E-06 | 8.22131E-07 | 8.89779E-06 | — | — | — | 1.32169E-05 | 0.000388539 | 3.83053E-06 | 8.22131E-07 | 8.89779E-06 | — | — | 0.000361772 | 1.32169E-05 | 0.028281825 | 0.003997708 | 0.000858011 | 0.009286111 | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000325944 | — | — | — | — | — | 0.000325944 | — | 0.000325955 | — | — | — | — |
| Lead | Pb | 0.000244051 | 1.98088E-06 | 2.96929E-08 | 0.000181286 | — | — | — | 6.07541E-05 | 0.000570086 | 1.98088E-06 | 2.96929E-08 | 0.000181286 | — | — | 0.000326036 | 6.07541E-05 | 0.021248956 | 0.000170392 | 2.55414E-06 | 0.015593937 | — |
| Mercury | Hg | 4.08122E-07 | 4.58889E-08 | 3.09538E-09 | 2.95804E-07 | — | — | — | 6.3334E-08 | 4.29268E-06 | 4.58889E-08 | 3.09538E-09 | 2.95804E-07 | — | — | 3.88456E-06 | 6.3334E-08 | 0.000146068 | 1.59231E-05 | 1.07407E-06 | 0.000102641 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 3.88456E-06 | — | — | — | — | — | 3.88456E-06 | — | 4.45334E-06 | — | — | — | — |
| Silver | Ag | 2.15998E-06 | 9.79875E-11 | 3.67201E-08 | 1.37184E-06 | — | — | — | 7.51324E-07 | 2.80198E-05 | 9.79875E-11 | 3.67201E-08 | 1.37184E-06 | — | — | 2.58598E-05 | 7.51324E-07 | 0.00021488 | 8.5749E-09 | 3.21339E-06 | 0.00012005 | — |
| Thallium | Tl | 9.29795E-07 | 9.50673E-10 | 1.89465E-09 | 5.9893E-07 | — | — | — | 3.2802E-07 | 7.86039E-05 | 9.50673E-10 | 1.89465E-09 | 5.9893E-07 | — | — | 7.76741E-05 | 3.2802E-07 | 0.000474537 | 4.05774E-07 | 8.08689E-07 | 0.00025564 | — |
| Uranium | U | 1.21103E-06 | 6.17717E-09 | 2.46216E-10 | 7.78332E-07 | — | — | — | 4.26275E-07 | 0.001248009 | 6.17717E-09 | 2.46216E-10 | 7.78332E-07 | — | — | 0.001246798 | 4.26275E-07 | 0.00204234 | 4.05787E-06 | 1.61743E-07 | 0.000511296 | — |
| Zinc | Zn | 0.000398467 | 2.88957E-05 | 7.7965E-06 | 0.000202252 | — | — | — | 0.000159523 | 0.003236684 | 2.88957E-05 | 7.7965E-06 | 0.000202252 | — | — | 0.002838217 | 0.000159523 | 0.095497295 | 0.006829368 | 0.001842667 | 0.047801368 | — |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) | Total Dose to Red Fox (mg/kg/d) | Dose to Red Fox from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.062353053 | 0.000417558 | 0.068478719 | 0.002433695 | 0.000164162 | 0.000158947 | — | — | 0.062363026 | 0.003358889 | 0.06923068 | 0.002736901 | 0.000184614 | 0.00017875 | — | — | 0.062353053 | 0.003777362 | 0.069214709 | 0.002736901 |
| Antimony | Sb | — | 0.00021968 | 0.000280121 | 0.001128785 | 4.0818E-05 | 2.25272E-06 | 0.000251497 | — | — | 0.00055254 | 0.000281677 | 0.000796172 | 4.08355E-05 | 2.25369E-06 | 0.000251605 | — | — | 0.00021968 | 0.000281798 | 0.000796172 | 4.08355E-05 |
| Arsenic | As | — | 0.000275521 | 0.001884094 | 0.004628333 | 4.92801E-05 | 9.2337E-06 | 0.000435212 | — | — | 0.002245317 | 0.001889291 | 0.002659176 | 4.92933E-05 | 9.23617E-06 | 0.000435328 | — | — | 0.000275521 | 0.001889797 | 0.002659176 | 4.92933E-05 |
| Cadmium | Cd | — | 6.37648E-06 | 0.000209254 | 0.003442541 | 1.89878E-05 | 3.72597E-06 | 0.003201842 | — | — | 8.33456E-06 | 0.00020965 | 0.003441064 | 1.89905E-05 | 3.72649E-06 | 0.003202291 | — | — | 6.37648E-06 | 0.000209679 | 0.003447308 | 1.89905E-05 |
| Cobalt | Co | — | 0.000173458 | 0.00636102 | 0.00734465 | 9.24913E-05 | 1.13434E-05 | 0.000695252 | — | — | 0.000162924 | 0.00638264 | 0.007358656 | 9.2536E-05 | 1.13489E-05 | 0.000695588 | — | — | 0.000173458 | 0.006385725 | 0.007341592 | 9.2536E-05 |
| Copper | Cu | — | 0.000346302 | 0.013793693 | 0.028304211 | 0.004000911 | 0.000858698 | 0.009293553 | — | — | 0.000346302 | 0.013804747 | 0.028306405 | 0.004001225 | 0.000858766 | 0.009294282 | — | — | 0.000346302 | 0.01380583 | 0.028321875 | 0.004001225 |
| Cyanide | CN- | — | 0.000325955 | — | 0.000325955 | — | — | — | — | — | 0.000325955 | — | 0.000325955 | — | — | — | — | — | 0.000325955 | — | 0.000325944 | — |
| Lead | Pb | — | 0.000256097 | 0.005225975 | 0.021479387 | 0.000172132 | 2.58021E-06 | 0.015753093 | — | — | 0.000272268 | 0.005279313 | 0.021478128 | 0.000172253 | 2.58202E-06 | 0.015764171 | — | — | 0.000256097 | 0.005283025 | 0.021548067 | 0.000172253 |
| Mercury | Hg | — | 4.45334E-06 | 2.19764E-05 | 0.000146385 | 1.59586E-05 | 1.07647E-06 | 0.000102871 | — | — | 4.45377E-06 | 2.20255E-05 | 0.000146431 | 1.59638E-05 | 1.07682E-06 | 0.000102904 | — | — | 4.45334E-06 | 2.20326E-05 | 0.000145862 | 1.59638E-05 |
| Methyl-Mercury | Me-Hg | — | 4.45334E-06 | — | 4.45377E-06 | — | — | — | — | — | 4.45377E-06 | — | 4.45334E-06 | — | — | — | — | — | 4.45334E-06 | — | 3.88456E-06 | — |
| Silver | Ag | — | 2.58598E-05 | 6.57485E-05 | 0.000216852 | 8.66434E-09 | 3.2469E-06 | 0.000121302 | — | — | 2.58598E-05 | 6.64343E-05 | 0.000216946 | 8.66862E-09 | 3.24851E-06 | 0.000121362 | — | — | 2.58598E-05 | 6.64671E-05 | 0.000216946 | 8.66862E-09 |
| Thallium | Tl | — | 7.76741E-05 | 0.000140008 | 0.000475419 | 4.06676E-07 | 8.10487E-07 | 0.000256209 | — | — | 7.76741E-05 | 0.00014032 | 0.000475443 | 4.06701E-07 | 8.10535E-07 | 0.000256224 | — | — | 7.76741E-05 | 0.000140328 | 0.000475443 | 4.06701E-07 |
| Uranium | U | — | 0.001246798 | 0.000280025 | 0.002043406 | 4.06331E-06 | 1.6196E-07 | 0.000511982 | — | — | 0.001246798 | 0.000280401 | 0.002043478 | 4.06368E-06 | 1.61974E-07 | 0.000512028 | — | — | 0.001246798 | 0.000280426 | 0.002043478 | 4.06368E-06 |
| Zinc | Zn | — | 0.001321404 | 0.037702488 | 0.095860004 | 0.006854096 | 0.001849339 | 0.047974452 | — | — | 0.001343113 | 0.037839004 | 0.095867063 | 0.006856183 | 0.001849902 | 0.047989053 | — | — | 0.001321404 | 0.037850521 | 0.097383876 | 0.006856183 |

## Table VI-5A Estimated Ecological Exposure Dose:Red Fox

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Red Fox from the consumption of Plant_2 (mg/kg/d) | Dose to Red Fox from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_3 (mg/kg/d) | Dose to Red Fox from the consumption of Meat_4 (mg/kg/d) | Dose to Red Fox from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red Fox from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000184614 | 0.00017875 | — | — | 0.062337082 | 0.003777362 |
| Antimony | Sb | 2.25369E-06 | 0.000251605 | — | — | 0.00021968 | 0.000281798 |
| Arsenic | As | 9.23617E-06 | 0.000435328 | — | — | 0.000275521 | 0.001889797 |
| Cadmium | Cd | 3.72649E-06 | 0.003202291 | — | — | 1.26207E-05 | 0.000209679 |
| Cobalt | Co | 1.13489E-05 | 0.000695588 | — | — | 0.000156394 | 0.006385725 |
| Copper | Cu | 0.000858766 | 0.009294282 | — | — | 0.000361772 | 0.01380583 |
| Cyanide | CN- | — | — | — | — | 0.000325944 | — |
| Lead | Pb | 2.58202E-06 | 0.015764171 | — | — | 0.000326036 | 0.005283025 |
| Mercury | Hg | 1.07682E-06 | 0.000102904 | — | — | 3.88456E-06 | 2.20326E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 3.88456E-06 | — |
| Silver | Ag | 3.24851E-06 | 0.000121362 | — | — | 2.58598E-05 | 6.64671E-05 |
| Thallium | Tl | 8.10535E-07 | 0.000256224 | — | — | 7.76741E-05 | 0.000140328 |
| Uranium | U | 1.61974E-07 | 0.000512028 | — | — | 0.001246798 | 0.000280426 |
| Zinc | Zn | 0.001849902 | 0.047989053 | — | — | 0.002838217 | 0.037850521 |

## Table VI-5B Estimated Ecological Risk: Red Fox

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.032333755 | 0.003233376 | 9.014148255 | 0.901414825 | 9.023435652 | 0.902343565 | 0.009279793 | 0.000927979 | 9.014148255 | 0.901414825 | 0.076369111 | 0.007636911 | 9.04648201 | 0.904648201 | 9.023435652 | 0.902343565 | 9.04648201 | 0.904648201 | 0.076369111 | 0.007636911 | 0.032333755 |
| Antimony | Sb | 0.006381626 | 0.000638163 | 0.043411281 | 0.004341128 | 0.044851966 | 0.004485197 | 0.00144 | 0.000144 | 0.043411281 | 0.004341128 | 0.001416305 | 0.000141631 | 0.045169556 | 0.004516956 | 0.044851966 | 0.004485197 | 0.045169556 | 0.004516956 | 0.006039657 | 0.000603966 | 0.006381626 |
| Arsenic | As | 0.020582497 | 0.00205825 | 0.106839667 | 0.010683967 | 0.119315698 | 0.01193157 | 0.012461538 | 0.001246154 | 0.106839667 | 0.010683967 | 0.002338458 | 0.000233846 | 0.108961522 | 0.010896152 | 0.119315698 | 0.01193157 | 0.108961522 | 0.010896152 | 0.0207991 | 0.00207991 | 0.020582497 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.001000067 | 0.00083301 | 0.010303402 | 0.008582265 | 0.010352519 | 0.008623178 | 4.91132E-05 | 4.09091E-05 | 0.010303402 | 0.008582265 | 9.52055E-05 | 7.93018E-05 | 0.010327068 | 0.008601978 | 0.010352519 | 0.008623178 | 0.010327068 | 0.008601978 | 0.001071606 | 0.000892599 | 0.001000067 |
| Copper | Cu | 0.002581331 | 0.00199482 | 0.004073211 | 0.003147726 | 0.004212037 | 0.003255009 | 0.000138462 | 0.000107001 | 0.004073211 | 0.003147726 | 8.59546E-05 | 6.64246E-05 | 0.004102888 | 0.00317066 | 0.004212037 | 0.003255009 | 0.004102888 | 0.00317066 | 0.00263761 | 0.002038311 | 0.002581331 |
| Cyanide | CN- | 4.72786E-06 | 4.72786E-06 | — | — | 0.001305419 | 0.001305419 | 0.001304348 | 0.001304348 | — | — | 6.5271E-06 | 6.5271E-06 | 4.72786E-06 | 4.72786E-06 | 0.001305419 | 0.001305419 | 4.72786E-06 | 4.72786E-06 | 6.5271E-06 | 6.5271E-06 | 4.72786E-06 |
| Lead | Pb | 0.00266017 | 0.000266017 | 0.040789822 | 0.004078982 | 0.041712435 | 0.004171244 | 0.0009225 | 0.00009225 | 0.040789822 | 0.004078982 | 0.000641397 | 6.41397E-05 | 0.040821838 | 0.004082184 | 0.041712435 | 0.004171244 | 0.040821838 | 0.004082184 | 0.003269551 | 0.000326955 | 0.00266017 |
| Mercury | Hg | 0.000149381 | 0.000149381 | 0.001014956 | 0.001014956 | 0.001177089 | 0.001177089 | 0.000162 | 0.000162 | 0.001014956 | 0.001014956 | 2.62619E-05 | 2.62619E-05 | 0.001019413 | 0.001019413 | 0.001177089 | 0.001177089 | 0.001019413 | 0.001019413 | 0.000171185 | 0.000171185 | 0.000149381 |
| Methyl-Mercury | Me-Hg | 0.000139168 | 2.78335E-05 | — | — | 0.005062533 | 0.001012507 | 0.0050625 | 0.0010125 | — | — | 0.000562504 | 0.000112501 | 0.000139168 | 2.78335E-05 | 0.005062533 | 0.001012507 | 0.000139168 | 2.78335E-05 | 0.000562504 | 0.000112501 | 0.000139168 |
| Silver | Ag | 3.61144E-05 | 3.61144E-06 | 0.000345595 | 3.45595E-05 | 0.000346343 | 3.46343E-05 | 7.47508E-07 | 7.47508E-08 | 0.000345595 | 3.45595E-05 | 8.36376E-06 | 8.36376E-07 | 0.000349894 | 3.49894E-05 | 0.000346343 | 3.46343E-05 | 0.000349894 | 3.49894E-05 | 4.0179E-05 | 4.0179E-06 | 3.61144E-05 |
| Thallium | Tl | 0.064531973 | 0.006453197 | 0.064513587 | 0.006451359 | 7.87644876 | 0.787644876 | 7.808108108 | 0.780810811 | 0.064513587 | 0.006451359 | 0.006020611 | 0.000602061 | 0.075015233 | 0.007501523 | 7.87644876 | 0.787644876 | 0.075015233 | 0.007501523 | 0.060050938 | 0.006005094 | 0.064531973 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.001301639 | 0.00065082 | 0.0085273 | 0.00426365 | 0.008551041 | 0.004275521 | 0.0000225 | 0.00001125 | 0.0085273 | 0.00426365 | 0.000123243 | 6.16214E-05 | 0.008536014 | 0.004268007 | 0.008551041 | 0.004275521 | 0.008536014 | 0.004268007 | 0.001416167 | 0.000708084 | 0.001301639 |

## Table VI-5B Estimated Ecological Risk: Red Fox

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.003233376 | 0.000408462 | 4.08462E-05 | 0.003285721 | 0.000328572 | 0.003695078 | 0.000369508 | 0.036020551 | 0.003602055 | 0.032742217 | 0.003274222 | 0.035624647 | 0.003562465 | 0.036028833 | 0.003602883 | 0.036020551 | 0.003602055 | 0.032333755 | 0.003233376 | 0.000393921 | 3.93921E-05 |
| Antimony | Sb | 0.000638163 | 1.99475E-06 | 1.99475E-07 | 0.004450111 | 0.000445011 | 2.96869E-05 | 2.96869E-06 | 0.001787962 | 0.000178796 | 0.006383621 | 0.000638362 | 0.009073462 | 0.000907346 | 0.006411313 | 0.000641131 | 0.006411313 | 0.000641131 | 0.006381626 | 0.000638163 | 1.97713E-06 | 1.97713E-07 |
| Arsenic | As | 0.00205825 | 4.95161E-06 | 4.95161E-07 | 0.017347633 | 0.001734763 | 6.08422E-05 | 6.08422E-06 | 0.002182697 | 0.00021827 | 0.020587449 | 0.002058745 | 0.035808275 | 0.003580828 | 0.02064334 | 0.002064334 | 0.02064334 | 0.002064334 | 0.020582497 | 0.00205825 | 4.90197E-06 | 4.90197E-07 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.00083301 | 4.72718E-07 | 3.93753E-07 | 3.79288E-06 | 3.1593E-06 | 4.26669E-06 | 3.55396E-06 | 2.48802E-05 | 2.07241E-05 | 0.001000539 | 0.000833404 | 0.001002422 | 0.000834972 | 0.001004333 | 0.000836564 | 0.001002005 | 0.000834625 | 0.001000067 | 0.00083301 | 4.72515E-07 | 3.93583E-07 |
| Copper | Cu | 0.00199482 | 1.99822E-07 | 1.5442E-07 | 2.86901E-05 | 2.21713E-05 | 2.44514E-06 | 1.88958E-06 | 3.34471E-05 | 2.58475E-05 | 0.002581531 | 0.001994975 | 0.002583576 | 0.001996555 | 0.002583776 | 0.00199671 | 0.002585102 | 0.001997734 | 0.002581331 | 0.00199482 | 1.86964E-07 | 1.44484E-07 |
| Cyanide | CN- | 4.72786E-06 | — | — | 4.21967E-06 | 4.21967E-06 | — | — | 4.7277E-06 | 4.7277E-06 | 4.72786E-06 | 4.72786E-06 | 4.72786E-06 | 4.72786E-06 | 4.72786E-06 | 4.72786E-06 | 4.7277E-06 | 4.7277E-06 | 4.72786E-06 | 4.72786E-06 | — | — |
| Lead | Pb | 0.000266017 | 1.86403E-06 | 1.86403E-07 | 6.27445E-05 | 6.27445E-06 | 3.0575E-05 | 3.0575E-06 | 7.13346E-05 | 7.13346E-06 | 0.002662035 | 0.000266203 | 0.002690899 | 0.00026909 | 0.002690746 | 0.000269075 | 0.002699489 | 0.000269949 | 0.00266017 | 0.000266017 | 1.85985E-06 | 1.85985E-07 |
| Mercury | Hg | 0.000149381 | 4.68573E-08 | 4.68573E-08 | 3.70825E-07 | 3.70825E-07 | 4.17793E-07 | 4.17793E-07 | 4.30555E-06 | 4.30555E-06 | 0.000149427 | 0.000149427 | 0.000149752 | 0.000149752 | 0.000149798 | 0.000149798 | 0.000149229 | 0.000149229 | 0.000149381 | 0.000149381 | 4.57727E-08 | 4.57727E-08 |
| Methyl-Mercury | Me-Hg | 2.78335E-05 | — | — | — | — | — | — | 0.000121393 | 2.42787E-05 | 0.000139168 | 2.78335E-05 | 0.000139181 | 2.78363E-05 | 0.000139168 | 2.78335E-05 | 0.000121393 | 2.42787E-05 | 0.000139168 | 2.78335E-05 | — | — |
| Silver | Ag | 3.61144E-06 | 1.58502E-08 | 1.58502E-09 | 3.47855E-07 | 3.47855E-08 | 3.63742E-07 | 3.63742E-08 | 4.66291E-06 | 4.66291E-07 | 3.61303E-05 | 3.61303E-06 | 3.64623E-05 | 3.64623E-06 | 3.64782E-05 | 3.64782E-06 | 3.64782E-05 | 3.64782E-06 | 3.61144E-05 | 3.61144E-06 | 1.56349E-08 | 1.56349E-09 |
| Thallium | Tl | 0.006453197 | 3.24627E-06 | 3.24627E-07 | 0.000123337 | 1.23337E-05 | 0.000126593 | 1.26593E-05 | 0.010628239 | 0.001062824 | 0.064535219 | 0.006453522 | 0.06465531 | 0.006465531 | 0.064658566 | 0.006465857 | 0.064658566 | 0.006465857 | 0.064531973 | 0.006453197 | 3.22203E-06 | 3.22203E-07 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.00065082 | 3.94129E-07 | 1.97064E-07 | 1.39347E-05 | 6.96735E-06 | 5.47215E-06 | 2.73608E-06 | 2.41897E-05 | 1.20949E-05 | 0.001302033 | 0.000651017 | 0.001306859 | 0.00065343 | 0.001307111 | 0.000653556 | 0.001317114 | 0.000658557 | 0.001301639 | 0.00065082 | 1.79371E-07 | 8.96855E-08 |

## Table VI-5B Estimated Ecological Risk: Red Fox

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) | Risk to Red Fox (NOAELm) | Risk to Red Fox (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.003168753 | 0.000316875 | 0.003563537 | 0.000356354 | 0.035862544 | 0.003586254 | 0.032701203 | 0.00327012 | 0.035481201 | 0.00354812 | 0.035870819 | 0.003587082 |
| Antimony | Sb | 0.004447763 | 0.000444776 | 2.94247E-05 | 2.94247E-06 | 0.001786863 | 0.000178686 | 0.00634193 | 0.000634193 | 0.009030278 | 0.000903028 | 0.006369378 | 0.000636938 |
| Arsenic | As | 0.017326985 | 0.001732699 | 6.02323E-05 | 6.02323E-06 | 0.002179622 | 0.000217962 | 0.020399866 | 0.002039987 | 0.035602559 | 0.003560256 | 0.020455196 | 0.00204552 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 3.79125E-06 | 3.15794E-06 | 4.26485E-06 | 3.55243E-06 | 2.48768E-05 | 2.07212E-05 | 0.001000117 | 0.000833052 | 0.001001999 | 0.000834619 | 0.001003909 | 0.000836211 |
| Copper | Cu | 2.84763E-05 | 2.20062E-05 | 2.28781E-06 | 1.76799E-06 | 3.32085E-05 | 2.56631E-05 | 0.00241725 | 0.00186802 | 0.002419163 | 0.001869499 | 0.002419351 | 0.001869644 |
| Cyanide | CN- | 4.21621E-06 | 4.21621E-06 | — | — | 4.72382E-06 | 4.72382E-06 | 4.72398E-06 | 4.72398E-06 | 4.72398E-06 | 4.72398E-06 | 4.72398E-06 | 4.72398E-06 |
| Lead | Pb | 6.26758E-05 | 6.26758E-06 | 3.05063E-05 | 3.05063E-06 | 7.12608E-05 | 7.12608E-06 | 0.002656119 | 0.000265612 | 0.002684923 | 0.000268492 | 0.002684766 | 0.000268477 |
| Mercury | Hg | 3.62241E-07 | 3.62241E-07 | 4.08122E-07 | 4.08122E-07 | 4.29268E-06 | 4.29268E-06 | 0.000146068 | 0.000146068 | 0.000146385 | 0.000146385 | 0.000146431 | 0.000146431 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000121393 | 2.42785E-05 | 0.000139167 | 2.78334E-05 | 0.00013918 | 2.78361E-05 | 0.000139167 | 2.78334E-05 |
| Silver | Ag | 3.4313E-07 | 3.4313E-08 | 3.58801E-07 | 3.58801E-08 | 4.65445E-06 | 4.65445E-07 | 3.56944E-05 | 3.56944E-06 | 3.60219E-05 | 3.60219E-06 | 3.60375E-05 | 3.60375E-06 |
| Thallium | Tl | 0.000122416 | 1.22416E-05 | 0.000125648 | 1.25648E-05 | 0.010622149 | 0.001062215 | 0.064126668 | 0.006412667 | 0.064245862 | 0.006424586 | 0.064249094 | 0.006424909 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 1.07051E-05 | 5.35254E-06 | 2.49042E-06 | 1.24521E-06 | 2.02293E-05 | 1.01146E-05 | 0.000596858 | 0.000298429 | 0.000599125 | 0.000299563 | 0.000599169 | 0.000299585 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.131634223 | — | — | — | — | — | 0.131634223 | — | 45.81847652 | 26.70669402 | 4.203424658 | 1.744244958 | — | — | — | 13.16411289 | 45.85628652 | 26.70669402 | 4.203424658 | 1.744244958 | — |
| Antimony | Sb | 0.002046969 | 0.0001623 | 2.09003E-05 | 0.001 | — | — | 0.000463769 | 0.0004 | 0.01486557 | 0.001523927 | 0.000196244 | 0.00938957 | — | — | — | 0.003755828 | 0.01524557 | 0.001523927 | 0.000196244 | 0.00938957 | — |
| Arsenic | As | 0.005290536 | 0.000196526 | 8.59211E-05 | 0.001735593 | — | — | 0.000581655 | 0.002690842 | 0.027252319 | 0.001137378 | 0.000497262 | 0.010044621 | — | — | — | 0.015573057 | 0.030672319 | 0.001137378 | 0.000497262 | 0.010044621 | — |
| Cadmium | Cd | 0.013204268 | 7.57974E-05 | 3.47052E-05 | 0.012781411 | — | — | 1.34615E-05 | 0.000298893 | 0.039059334 | 0.000224444 | 0.000102766 | 0.037847072 | — | — | — | 0.000885053 | 0.039439334 | 0.000224444 | 0.000102766 | 0.037847072 | — |
| Cobalt | Co | 0.012693206 | 0.000368534 | 0.000105462 | 0.002770246 | — | — | 0.00036619 | 0.009082774 | 0.130079994 | 0.003888925 | 0.001112884 | 0.029232832 | — | — | — | 0.095845352 | 0.130839994 | 0.003888925 | 0.001112884 | 0.029232832 | — |
| Copper | Cu | 0.081573405 | 0.015989579 | 0.008007474 | 0.037141537 | — | — | 0.000731081 | 0.019703733 | 0.12904874 | 0.025524193 | 0.012782344 | 0.059289099 | — | — | — | 0.031453103 | 0.13246874 | 0.025524193 | 0.012782344 | 0.059289099 | — |
| Cyanide | CN- | 0.000688126 | — | — | — | — | — | 0.000688126 | — | — | — | — | — | — | — | — | — | 0.19 | — | — | — | — |
| Lead | Pb | 0.071037485 | 0.000681087 | 2.38217E-05 | 0.062331539 | — | — | 0.000540649 | 0.007460388 | 1.094134094 | 0.010570691 | 0.000369721 | 0.967406009 | — | — | — | 0.115787673 | 1.109714094 | 0.010570691 | 0.000369721 | 0.967406009 | — |
| Mercury | Hg | 0.000524912 | 6.36716E-05 | 1.00214E-05 | 0.000410433 | — | — | 9.40149E-06 | 3.13847E-05 | 0.003610319 | 0.000445917 | 7.01838E-05 | 0.00287442 | — | — | — | 0.000219799 | 0.003952319 | 0.000445917 | 7.01838E-05 | 0.00287442 | — |
| Methyl-Mercury | Me-Hg | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 | — | — | — | — | — | — | — | — | — | 0.000342 | — | — | — | — |
| Silver | Ag | 0.000658444 | 3.42825E-08 | 2.99767E-05 | 0.00047996 | — | — | 5.45929E-05 | 9.38797E-05 | 0.006559355 | 3.72395E-07 | 0.000325623 | 0.005213587 | — | — | — | 0.001019772 | 0.006568855 | 3.72395E-07 | 0.000325623 | 0.005213587 | — |
| Thallium | Tl | 0.001395649 | 0.000001623 | 7.54731E-06 | 0.0010225 | — | — | 0.000163979 | 0.0002 | 0.001470646 | 1.9379E-06 | 9.01168E-06 | 0.001220891 | — | — | — | 0.000238805 | 0.123450646 | 1.9379E-06 | 9.01168E-06 | 0.001220891 | — |
| Uranium | U | 0.005094869 | 0.00001623 | 1.50946E-06 | 0.002045 | — | — | 0.002632129 | 0.0004 | 0.004616561 | 3.04242E-05 | 2.82958E-06 | 0.003833482 | — | — | — | 0.000749825 | 0.005566561 | 3.04242E-05 | 2.82958E-06 | 0.003833482 | — |
| Zinc | Zn | 0.292283252 | 0.027309147 | 0.017192984 | 0.191147205 | — | — | 0.002789631 | 0.053844283 | 1.909313788 | 0.180113578 | 0.113393871 | 1.260684067 | — | — | — | 0.355122272 | 1.916913788 | 0.180113578 | 0.113393871 | 1.260684067 | — |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| Phase | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.03781 | 13.16411289 | 45.81847652 | 26.70669402 | 4.203424658 | 1.744244958 | — | — | — | 13.16411289 | 0.384638744 | 0.215892356 | 0.033979768 | 0.014100179 | — | — | 0.01425 | 0.106416442 | 45.95011075 | 26.70669402 |
| Antimony | Sb | — | 0.00038 | 0.003755828 | 0.01486557 | 0.001523927 | 0.000196244 | 0.00938957 | — | — | — | 0.003755828 | 0.000418438 | 2.00206E-05 | 2.57816E-06 | 0.000123356 | — | — | 0.000223141 | 4.93422E-05 | 0.015329338 | 0.001523927 |
| Arsenic | As | — | 0.00342 | 0.015573057 | 0.027252319 | 0.001137378 | 0.000497262 | 0.010044621 | — | — | — | 0.015573057 | 0.000618573 | 1.25512E-05 | 5.48738E-06 | 0.000110844 | — | — | 0.000317839 | 0.000171851 | 0.027833973 | 0.001137378 |
| Cadmium | Cd | — | 0.00038 | 0.000885053 | 0.039059334 | 0.000224444 | 0.000102766 | 0.037847072 | — | — | — | 0.000885053 | 0.000587366 | 3.15678E-06 | 1.44539E-06 | 0.000532315 | — | — | 0.000038 | 1.24482E-05 | 0.039072796 | 0.000224444 |
| Cobalt | Co | — | 0.00076 | 0.095845352 | 0.130079994 | 0.003888925 | 0.001112884 | 0.029232832 | — | — | — | 0.095845352 | 0.001233442 | 3.17632E-05 | 9.0896E-06 | 0.000238762 | — | — | 0.000171 | 0.000782827 | 0.130446184 | 0.003888925 |
| Copper | Cu | — | 0.00342 | 0.031453103 | 0.12904874 | 0.025524193 | 0.012782344 | 0.059289099 | — | — | — | 0.031453103 | 0.002451487 | 0.000296975 | 0.000148723 | 0.000689831 | — | — | 0.00095 | 0.000365958 | 0.129779821 | 0.025524193 |
| Cyanide | CN- | — | 0.19 | — | — | — | — | — | — | — | — | — | 0.00095 | — | — | — | — | — | 0.00095 | — | 0.000688126 | — |
| Lead | Pb | — | 0.01558 | 0.115787673 | 1.094134094 | 0.010570691 | 0.000369721 | 0.967406009 | — | — | — | 0.115787673 | 0.016645624 | 0.000151639 | 5.30374E-06 | 0.013877678 | — | — | 0.00095 | 0.001661003 | 1.094674743 | 0.010570691 |
| Mercury | Hg | — | 0.000342 | 0.000219799 | 0.003610319 | 0.000445917 | 7.01838E-05 | 0.00287442 | — | — | — | 0.000219799 | 6.73357E-05 | 3.62331E-06 | 5.7028E-07 | 2.33562E-05 | — | — | 0.000038 | 1.78598E-06 | 0.003619721 | 0.000445917 |
| Methyl-Mercury | Me-Hg | — | 0.000342 | — | — | — | — | — | — | — | — | — | 0.000038 | — | — | — | — | — | 0.000038 | — | 9.40149E-06 | — |
| Silver | Ag | — | 0.0000095 | 0.001019772 | 0.006559355 | 3.72395E-07 | 0.000325623 | 0.005213587 | — | — | — | 0.001019772 | 0.000149466 | 7.42096E-09 | 6.48889E-06 | 0.000103894 | — | — | 1.87541E-05 | 2.03216E-05 | 0.006613948 | 3.72395E-07 |
| Thallium | Tl | — | 0.12198 | 0.000238805 | 0.001470646 | 1.9379E-06 | 9.01168E-06 | 0.001220891 | — | — | — | 0.000238805 | 0.00011103 | 7.11969E-08 | 3.31082E-07 | 4.48545E-05 | — | — | 0.000057 | 8.77349E-06 | 0.001634624 | 1.9379E-06 |
| Uranium | U | — | 0.00095 | 0.000749825 | 0.004616561 | 3.04242E-05 | 2.82958E-06 | 0.003833482 | — | — | — | 0.000749825 | 0.001021699 | 4.72514E-07 | 4.39459E-08 | 5.95373E-05 | — | — | 0.00095 | 1.16454E-05 | 0.00724869 | 3.04242E-05 |
| Zinc | Zn | — | 0.0076 | 0.355122272 | 1.909313788 | 0.180113578 | 0.113393871 | 1.260684067 | — | — | — | 0.355122272 | 0.029307914 | 0.002227034 | 0.001402071 | 0.015587862 | — | — | 0.0057 | 0.004390947 | 1.912103419 | 0.180113578 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 4.203424658 | 1.744244958 | — | — | 0.131634223 | 13.16411289 | 45.85628652 | 26.70669402 | 4.203424658 | 1.744244958 | — | — | 0.03781 | 13.16411289 | 45.95011075 | 26.70669402 | 4.203424658 | 1.744244958 | — | — | 0.131634223 |
| Antimony | Sb | 0.000196244 | 0.00938957 | — | — | 0.000463769 | 0.003755828 | 0.01524557 | 0.001523927 | 0.000196244 | 0.00938957 | — | — | 0.00038 | 0.003755828 | 0.015329338 | 0.001523927 | 0.000196244 | 0.00938957 | — | — | 0.000463769 |
| Arsenic | As | 0.000497262 | 0.010044621 | — | — | 0.000581655 | 0.015573057 | 0.030672319 | 0.001137378 | 0.000497262 | 0.010044621 | — | — | 0.00342 | 0.015573057 | 0.027833973 | 0.001137378 | 0.000497262 | 0.010044621 | — | — | 0.000581655 |
| Cadmium | Cd | 0.000102766 | 0.037847072 | — | — | 1.34615E-05 | 0.000885053 | 0.039439334 | 0.000224444 | 0.000102766 | 0.037847072 | — | — | 0.00038 | 0.000885053 | 0.039072796 | 0.000224444 | 0.000102766 | 0.037847072 | — | — | 1.34615E-05 |
| Cobalt | Co | 0.001112884 | 0.029232832 | — | — | 0.00036619 | 0.095845352 | 0.130839994 | 0.003888925 | 0.001112884 | 0.029232832 | — | — | 0.00076 | 0.095845352 | 0.130446184 | 0.003888925 | 0.001112884 | 0.029232832 | — | — | 0.00036619 |
| Copper | Cu | 0.012782344 | 0.059289099 | — | — | 0.000731081 | 0.031453103 | 0.13246874 | 0.025524193 | 0.012782344 | 0.059289099 | — | — | 0.00342 | 0.031453103 | 0.129779821 | 0.025524193 | 0.012782344 | 0.059289099 | — | — | 0.000731081 |
| Cyanide | CN- | — | — | — | — | 0.000688126 | — | 0.19 | — | — | — | — | — | 0.19 | — | 0.000688126 | — | — | — | — | — | 0.000688126 |
| Lead | Pb | 0.000369721 | 0.967406009 | — | — | 0.000540649 | 0.115787673 | 1.109714094 | 0.010570691 | 0.000369721 | 0.967406009 | — | — | 0.01558 | 0.115787673 | 1.094674743 | 0.010570691 | 0.000369721 | 0.967406009 | — | — | 0.000540649 |
| Mercury | Hg | 7.01838E-05 | 0.00287442 | — | — | 9.40149E-06 | 0.000219799 | 0.003952319 | 0.000445917 | 7.01838E-05 | 0.00287442 | — | — | 0.000342 | 0.000219799 | 0.003619721 | 0.000445917 | 7.01838E-05 | 0.00287442 | — | — | 9.40149E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 9.40149E-06 | — | 0.000342 | — | — | — | — | — | 0.000342 | — | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 |
| Silver | Ag | 0.000325623 | 0.005213587 | — | — | 5.45929E-05 | 0.001019772 | 0.006568855 | 3.72395E-07 | 0.000325623 | 0.005213587 | — | — | 0.0000095 | 0.001019772 | 0.006613948 | 3.72395E-07 | 0.000325623 | 0.005213587 | — | — | 5.45929E-05 |
| Thallium | Tl | 9.01168E-06 | 0.001220891 | — | — | 0.000163979 | 0.000238805 | 0.123450646 | 1.9379E-06 | 9.01168E-06 | 0.001220891 | — | — | 0.12198 | 0.000238805 | 0.001634624 | 1.9379E-06 | 9.01168E-06 | 0.001220891 | — | — | 0.000163979 |
| Uranium | U | 2.82958E-06 | 0.003833482 | — | — | 0.002632129 | 0.000749825 | 0.005566561 | 3.04242E-05 | 2.82958E-06 | 0.003833482 | — | — | 0.00095 | 0.000749825 | 0.00724869 | 3.04242E-05 | 2.82958E-06 | 0.003833482 | — | — | 0.002632129 |
| Zinc | Zn | 0.113393871 | 1.260684067 | — | — | 0.002789631 | 0.355122272 | 1.916913788 | 0.180113578 | 0.113393871 | 1.260684067 | — | — | 0.0076 | 0.355122272 | 1.912103419 | 0.180113578 | 0.113393871 | 1.260684067 | — | — | 0.002789631 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 13.16411289 | 0.384638744 | 0.215892356 | 0.033979768 | 0.014100179 | — | — | 0.01425 | 0.106416442 | 0.131634223 | — | — | — | — | — | 0.131634223 | — | 0.002076192 | 0.001210172 | 0.000190472 | 7.90377E-05 |
| Antimony | Sb | 0.003755828 | 0.002001638 | 0.000182321 | 2.34784E-05 | 0.001123356 | — | — | 0.000223141 | 0.000449342 | 0.002046969 | 0.0001623 | 2.09003E-05 | 0.001 | — | — | 0.000463769 | 0.0004 | 6.83073E-07 | 7.00244E-08 | 9.01742E-09 | 4.31451E-07 |
| Arsenic | As | 0.015573057 | 0.005327454 | 0.000209077 | 9.14085E-05 | 0.001846437 | — | — | 0.000317839 | 0.002862693 | 0.005290536 | 0.000196526 | 8.59211E-05 | 0.001735593 | — | — | 0.000581655 | 0.002690842 | 1.26304E-06 | 5.27131E-08 | 2.30462E-08 | 4.6553E-07 |
| Cadmium | Cd | 0.000885053 | 0.013778172 | 7.89542E-05 | 3.61506E-05 | 0.013313726 | — | — | 0.000038 | 0.000311341 | 0.013204268 | 7.57974E-05 | 3.47052E-05 | 0.012781411 | — | — | 1.34615E-05 | 0.000298893 | 1.84875E-06 | 1.06234E-08 | 4.8641E-09 | 1.79137E-06 |
| Cobalt | Co | 0.095845352 | 0.013560459 | 0.000400297 | 0.000114552 | 0.003009008 | — | — | 0.000171 | 0.009865601 | 0.012693206 | 0.000368534 | 0.000105462 | 0.002770246 | — | — | 0.00036619 | 0.009082774 | 5.96805E-06 | 1.78423E-07 | 5.10589E-08 | 1.3412E-06 |
| Copper | Cu | 0.031453103 | 0.083293811 | 0.016286554 | 0.008156197 | 0.037831368 | — | — | 0.00095 | 0.020069691 | 0.081573405 | 0.015989579 | 0.008007474 | 0.037141537 | — | — | 0.000731081 | 0.019703733 | 6.33083E-06 | 1.25216E-06 | 6.27072E-07 | 2.90858E-06 |
| Cyanide | CN- | — | 0.00095 | — | — | — | — | — | 0.00095 | — | 0.000688126 | — | — | — | — | — | 0.000688126 | — | — | — | — | — |
| Lead | Pb | 0.115787673 | 0.08714246 | 0.000832726 | 2.91255E-05 | 0.076209218 | — | — | 0.00095 | 0.009121391 | 0.071037485 | 0.000681087 | 2.38217E-05 | 0.062331539 | — | — | 0.000540649 | 0.007460388 | 5.00003E-05 | 4.83065E-07 | 1.68957E-08 | 4.4209E-05 |
| Mercury | Hg | 0.000219799 | 0.000582846 | 6.72949E-05 | 1.05917E-05 | 0.000433789 | — | — | 0.000038 | 3.31706E-05 | 0.000524912 | 6.36716E-05 | 1.00214E-05 | 0.000410433 | — | — | 9.40149E-06 | 3.13847E-05 | 1.66677E-07 | 2.05866E-08 | 3.24017E-09 | 1.32703E-07 |
| Methyl-Mercury | Me-Hg | — | 0.000038 | — | — | — | — | — | 0.000038 | — | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 | — | — | — | — | — |
| Silver | Ag | 0.001019772 | 0.000753317 | 4.17035E-08 | 3.64656E-05 | 0.000583854 | — | — | 1.87541E-05 | 0.000114201 | 0.000658444 | 3.42825E-08 | 2.99767E-05 | 0.00047996 | — | — | 5.45929E-05 | 9.38797E-05 | 3.00836E-07 | 1.70794E-11 | 1.49343E-08 | 2.39114E-07 |
| Thallium | Tl | 0.000238805 | 0.001342701 | 1.6942E-06 | 7.87839E-06 | 0.001067354 | — | — | 0.000057 | 0.000208773 | 0.001395649 | 0.000001623 | 7.54731E-06 | 0.0010225 | — | — | 0.000163979 | 0.0002 | 7.40016E-08 | 9.75136E-11 | 4.5346E-10 | 6.14342E-08 |
| Uranium | U | 0.000749825 | 0.003484439 | 1.67025E-05 | 1.55341E-06 | 0.002104537 | — | — | 0.00095 | 0.000411645 | 0.005094869 | 0.00001623 | 1.50946E-06 | 0.002045 | — | — | 0.002632129 | 0.0004 | 2.23912E-07 | 1.47563E-09 | 1.3724E-10 | 1.85931E-07 |
| Zinc | Zn | 0.355122272 | 0.318801534 | 0.029536181 | 0.018595055 | 0.206735068 | — | — | 0.0057 | 0.05823523 | 0.292283252 | 0.027309147 | 0.017192984 | 0.191147205 | — | — | 0.002789631 | 0.053844283 | 8.82478E-05 | 8.32479E-06 | 5.24103E-06 | 5.82684E-05 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.000596511 | 0.016701159 | 0.009734779 | 0.001532178 | 0.00063579 | — | — | — | 0.004798412 | 0.018781902 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | — | 0.005396231 | 0.150382409 |
| Antimony | Sb | — | — | — | 1.7258E-07 | 0.001175955 | 9.71954E-07 | 1.25164E-07 | 5.98863E-06 | — | — | 0.001166473 | 2.39545E-06 | 1.01659E-05 | 1.04214E-06 | 1.34202E-07 | 6.42108E-06 | — | — | — | 2.56843E-06 | 0.000473934 |
| Arsenic | As | — | — | — | 7.21751E-07 | 0.004754366 | 5.94866E-07 | 2.60076E-07 | 5.25349E-06 | — | — | 0.004740113 | 8.14495E-06 | 1.55194E-05 | 6.47705E-07 | 2.83177E-07 | 5.72013E-06 | — | — | — | 8.86842E-06 | 0.000597174 |
| Cadmium | Cd | — | — | — | 4.18912E-08 | 4.43842E-05 | 1.53936E-07 | 7.04824E-08 | 2.59576E-05 | — | — | 1.75952E-05 | 6.07019E-07 | 2.86426E-05 | 1.64587E-07 | 7.53591E-08 | 2.77536E-05 | — | — | — | 6.49018E-07 | 5.52863E-05 |
| Cobalt | Co | — | — | — | 4.39737E-06 | 4.7885E-05 | 1.43159E-06 | 4.09674E-07 | 1.07612E-05 | — | — | — | 3.52825E-05 | 5.38668E-05 | 1.61042E-06 | 4.60851E-07 | 1.21055E-05 | — | — | — | 3.969E-05 | 0.000372825 |
| Copper | Cu | — | — | — | 1.54302E-06 | 0.000722607 | 1.40664E-05 | 7.04435E-06 | 3.26742E-05 | — | — | 0.000651488 | 1.73338E-05 | 7.74678E-05 | 1.53221E-05 | 7.67322E-06 | 3.55912E-05 | — | — | — | 1.88813E-05 | 0.000841208 |
| Cyanide | CN- | — | — | — | — | 0.000614161 | — | — | — | — | — | 0.000614161 | — | — | — | — | — | — | — | — | — | 0.000688103 |
| Lead | Pb | — | — | — | 5.29133E-06 | 0.00134481 | 7.43937E-06 | 2.602E-07 | 0.000680834 | — | — | 0.000574789 | 8.14882E-05 | 0.000820136 | 7.92353E-06 | 2.77134E-07 | 0.000725143 | — | — | — | 8.67916E-05 | 0.001508434 |
| Mercury | Hg | — | — | — | 1.01474E-08 | 1.31907E-06 | 1.6292E-07 | 2.56424E-08 | 1.0502E-06 | — | — | — | 8.03058E-08 | 1.48614E-06 | 1.83556E-07 | 2.88902E-08 | 1.18322E-06 | — | — | — | 9.04772E-08 | 9.68688E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.20074E-06 |
| Silver | Ag | — | — | — | 4.67705E-08 | 6.60226E-06 | 3.74831E-10 | 3.27753E-07 | 5.24769E-06 | — | — | — | 1.02644E-06 | 6.90378E-06 | 3.9195E-10 | 3.42721E-07 | 5.48735E-06 | — | — | — | 1.07332E-06 | 6.14967E-05 |
| Thallium | Tl | — | — | — | 1.20165E-08 | 2.81157E-06 | 3.70488E-09 | 1.72285E-08 | 2.33409E-06 | — | — | — | 4.56547E-07 | 2.8858E-06 | 3.80269E-09 | 1.76834E-08 | 2.39572E-06 | — | — | — | 4.686E-07 | 0.000166864 |
| Uranium | U | — | — | — | 3.63679E-08 | 3.52476E-06 | 2.3229E-08 | 2.1604E-09 | 2.92688E-06 | — | — | — | 5.72494E-07 | 3.7493E-06 | 2.47087E-08 | 2.29802E-09 | 3.11333E-06 | — | — | — | 6.08964E-07 | 0.002635878 |
| Zinc | Zn | — | — | — | 1.64136E-05 | 0.003972252 | 0.000107238 | 6.75139E-05 | 0.000750602 | — | — | 0.00283546 | 0.000211437 | 0.001225248 | 0.000115583 | 7.27673E-05 | 0.000809008 | — | — | — | 0.00022789 | 0.00721704 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.010947604 | 0.001723067 | 0.000715001 | — | — | 0.131600506 | 0.005396231 | 0.133710416 | 0.001210172 | 0.000190472 | 7.90377E-05 | — | — | 0.131634223 | 0.000596511 | 0.148356436 | 0.009734779 | 0.001532178 | 0.00063579 | — | — |
| Antimony | Sb | 1.04214E-06 | 1.34202E-07 | 6.42108E-06 | — | — | 0.000463769 | 2.56843E-06 | 0.002047652 | 0.00016237 | 2.09093E-05 | 0.001000431 | — | — | 0.000463769 | 0.000400173 | 0.002759155 | 0.000163272 | 2.10254E-05 | 0.001005989 | — | — |
| Arsenic | As | 6.47705E-07 | 2.83177E-07 | 5.72013E-06 | — | — | 0.000581655 | 8.86842E-06 | 0.005291799 | 0.000196578 | 8.59441E-05 | 0.001736058 | — | — | 0.000581655 | 0.002691563 | 0.009463248 | 0.00019712 | 8.61812E-05 | 0.001740846 | — | — |
| Cadmium | Cd | 1.64587E-07 | 7.53591E-08 | 2.77536E-05 | — | — | 2.66437E-05 | 6.49018E-07 | 0.013206117 | 7.5808E-05 | 3.47101E-05 | 0.012783202 | — | — | 1.34615E-05 | 0.000298935 | 0.013235191 | 7.59513E-05 | 3.47757E-05 | 0.012807369 | — | — |
| Cobalt | Co | 1.61042E-06 | 4.60851E-07 | 1.21055E-05 | — | — | 0.000318958 | 3.969E-05 | 0.012699174 | 0.000368712 | 0.000105513 | 0.002771587 | — | — | 0.00036619 | 0.009087172 | 0.012718851 | 0.000369965 | 0.000105872 | 0.002781007 | — | — |
| Copper | Cu | 1.53221E-05 | 7.67322E-06 | 3.55912E-05 | — | — | 0.000763741 | 1.88813E-05 | 0.081579735 | 0.015990832 | 0.008008101 | 0.037144445 | — | — | 0.000731081 | 0.019705276 | 0.081644523 | 0.016003646 | 0.008014518 | 0.037174211 | — | — |
| Cyanide | CN- | — | — | — | — | — | 0.000688103 | — | 0.000688126 | — | — | — | — | — | 0.000688126 | — | 0.000688126 | — | — | — | — | — |
| Lead | Pb | 7.92353E-06 | 2.77134E-07 | 0.000725143 | — | — | 0.000688298 | 8.67916E-05 | 0.071087485 | 0.00068157 | 2.38386E-05 | 0.062375748 | — | — | 0.000540649 | 0.007465679 | 0.071841646 | 0.000688526 | 2.40819E-05 | 0.063012374 | — | — |
| Mercury | Hg | 1.83556E-07 | 2.88902E-08 | 1.18322E-06 | — | — | 8.20074E-06 | 9.04772E-08 | 0.000525079 | 6.36922E-05 | 1.00247E-05 | 0.000410566 | — | — | 9.40149E-06 | 3.13948E-05 | 0.000526232 | 6.38346E-05 | 1.00471E-05 | 0.000411483 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 8.20074E-06 | — | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 | — | 9.40241E-06 | — | — | — | — | — |
| Silver | Ag | 3.9195E-10 | 3.42721E-07 | 5.48735E-06 | — | — | 5.45929E-05 | 1.07332E-06 | 0.000658744 | 3.42996E-08 | 2.99916E-05 | 0.000480199 | — | — | 5.45929E-05 | 9.39265E-05 | 0.000665046 | 3.46574E-08 | 3.03044E-05 | 0.000485208 | — | — |
| Thallium | Tl | 3.80269E-09 | 1.76834E-08 | 2.39572E-06 | — | — | 0.000163979 | 4.686E-07 | 0.001395723 | 1.6231E-06 | 7.54777E-06 | 0.001022561 | — | — | 0.000163979 | 0.000200012 | 0.001398461 | 1.6267E-06 | 7.56454E-06 | 0.001024834 | — | — |
| Uranium | U | 2.47087E-08 | 2.29802E-09 | 3.11333E-06 | — | — | 0.002632129 | 6.08964E-07 | 0.005095092 | 1.62315E-05 | 1.5096E-06 | 0.002045186 | — | — | 0.002632129 | 0.000400036 | 0.005098393 | 1.62532E-05 | 1.51162E-06 | 0.002047927 | — | — |
| Zinc | Zn | 0.000115583 | 7.27673E-05 | 0.000809008 | — | — | 0.005991792 | 0.00022789 | 0.292371499 | 0.027317472 | 0.017198225 | 0.191205474 | — | — | 0.002789631 | 0.053860697 | 0.293465872 | 0.027416386 | 0.017260498 | 0.191897807 | — | — |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.131655277 | 0.004798412 | 0.150416126 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | 0.131634223 | 0.005396231 | 0.150382409 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | 0.131600506 | 0.005396231 | 0.131634223 | — | — |
| Antimony | Sb | 0.001166473 | 0.000402395 | 0.002057135 | 0.000163342 | 2.10345E-05 | 0.001006421 | — | — | 0.000463769 | 0.000402568 | 0.002057135 | 0.000163342 | 2.10345E-05 | 0.001006421 | — | — | 0.000463769 | 0.000402568 | 0.002046969 | 0.0001623 | 2.09003E-05 |
| Arsenic | As | 0.004740113 | 0.002698987 | 0.005306056 | 0.000197173 | 8.62043E-05 | 0.001741313 | — | — | 0.000581655 | 0.00269971 | 0.005306056 | 0.000197173 | 8.62043E-05 | 0.001741313 | — | — | 0.000581655 | 0.00269971 | 0.005290536 | 0.000196526 | 8.59211E-05 |
| Cadmium | Cd | 1.75952E-05 | 0.0002995 | 0.013232911 | 7.5962E-05 | 3.47806E-05 | 0.012809165 | — | — | 1.34615E-05 | 0.000299542 | 0.013246093 | 7.5962E-05 | 3.47806E-05 | 0.012809165 | — | — | 2.66437E-05 | 0.000299542 | 0.013204268 | 7.57974E-05 | 3.47052E-05 |
| Cobalt | Co | 0.00034395 | 0.009118057 | 0.012747073 | 0.000370144 | 0.000105923 | 0.002782352 | — | — | 0.00036619 | 0.009122464 | 0.012711048 | 0.000370144 | 0.000105923 | 0.002782352 | — | — | 0.000330165 | 0.009122464 | 0.012693206 | 0.000368534 | 0.000105462 |
| Copper | Cu | 0.000731081 | 0.019721067 | 0.081650872 | 0.016004902 | 0.008015147 | 0.037177128 | — | — | 0.000731081 | 0.019722614 | 0.081683532 | 0.016004902 | 0.008015147 | 0.037177128 | — | — | 0.000763741 | 0.019722614 | 0.081573405 | 0.015989579 | 0.008007474 |
| Cyanide | CN- | 0.000688126 | — | 0.000688126 | — | — | — | — | — | 0.000688126 | — | 0.000688103 | — | — | — | — | — | 0.000688103 | — | 0.000688126 | — | — |
| Lead | Pb | 0.000574789 | 0.007541876 | 0.07185762 | 0.00068901 | 2.40989E-05 | 0.063056683 | — | — | 0.000540649 | 0.007547179 | 0.072005269 | 0.00068901 | 2.40989E-05 | 0.063056683 | — | — | 0.000688298 | 0.007547179 | 0.071037485 | 0.000681087 | 2.38217E-05 |
| Mercury | Hg | 9.40241E-06 | 3.1465E-05 | 0.000526398 | 6.38552E-05 | 1.00503E-05 | 0.000411616 | — | — | 9.40149E-06 | 3.14751E-05 | 0.000525198 | 6.38552E-05 | 1.00503E-05 | 0.000411616 | — | — | 8.20074E-06 | 3.14751E-05 | 0.000524912 | 6.36716E-05 | 1.00214E-05 |
| Methyl-Mercury | Me-Hg | 9.40241E-06 | — | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 | — | 8.20074E-06 | — | — | — | — | — | 8.20074E-06 | — | 9.40149E-06 | — | — |
| Silver | Ag | 5.45929E-05 | 9.49062E-05 | 0.000665347 | 3.46745E-08 | 3.03194E-05 | 0.000485447 | — | — | 5.45929E-05 | 9.4953E-05 | 0.000665347 | 3.46745E-08 | 3.03194E-05 | 0.000485447 | — | — | 5.45929E-05 | 9.4953E-05 | 0.000658444 | 3.42825E-08 | 2.99767E-05 |
| Thallium | Tl | 0.000163979 | 0.000200457 | 0.001398535 | 1.6268E-06 | 7.565E-06 | 0.001024896 | — | — | 0.000163979 | 0.000200469 | 0.001398535 | 1.6268E-06 | 7.565E-06 | 0.001024896 | — | — | 0.000163979 | 0.000200469 | 0.001395649 | 0.000001623 | 7.54731E-06 |
| Uranium | U | 0.002632129 | 0.000400572 | 0.005098618 | 1.62547E-05 | 1.51176E-06 | 0.002048113 | — | — | 0.002632129 | 0.000400609 | 0.005098618 | 1.62547E-05 | 1.51176E-06 | 0.002048113 | — | — | 0.002632129 | 0.000400609 | 0.005094869 | 0.00001623 | 1.50946E-06 |
| Zinc | Zn | 0.00283546 | 0.05405572 | 0.2935085 | 0.02742473 | 0.017265752 | 0.191956214 | — | — | 0.002789631 | 0.054072173 | 0.296710661 | 0.02742473 | 0.017265752 | 0.191956214 | — | — | 0.005991792 | 0.054072173 | 0.292283252 | 0.027309147 | 0.017192984 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.131634223 | — | 0.002076192 | 0.001210172 | 0.000190472 | 7.90377E-05 | — | — | — | 0.000596511 | 0.016701159 | 0.009734779 | 0.001532178 | 0.00063579 | — | — | — | 0.004798412 |
| Antimony | Sb | 0.001 | — | — | 0.000463769 | 0.0004 | 6.83073E-07 | 7.00244E-08 | 9.01742E-09 | 4.31451E-07 | — | — | — | 1.7258E-07 | 0.001175955 | 9.71954E-07 | 1.25164E-07 | 5.98863E-06 | — | — | 0.001166473 | 2.39545E-06 |
| Arsenic | As | 0.001735593 | — | — | 0.000581655 | 0.002690842 | 1.26304E-06 | 5.27131E-08 | 2.30462E-08 | 4.6553E-07 | — | — | — | 7.21751E-07 | 0.004754366 | 5.94866E-07 | 2.60076E-07 | 5.25349E-06 | — | — | 0.004740113 | 8.14495E-06 |
| Cadmium | Cd | 0.012781411 | — | — | 1.34615E-05 | 0.000298893 | 1.84875E-06 | 1.06234E-08 | 4.8641E-09 | 1.79137E-06 | — | — | — | 4.18912E-08 | 4.43842E-05 | 1.53936E-07 | 7.04824E-08 | 2.59576E-05 | — | — | 1.75952E-05 | 6.07019E-07 |
| Cobalt | Co | 0.002770246 | — | — | 0.00036619 | 0.009082774 | 5.96805E-06 | 1.78423E-07 | 5.10589E-08 | 1.3412E-06 | — | — | — | 4.39737E-06 | 4.7885E-05 | 1.43159E-06 | 4.09674E-07 | 1.07612E-05 | — | — | — | 3.52825E-05 |
| Copper | Cu | 0.037141537 | — | — | 0.000731081 | 0.019703733 | 6.33083E-06 | 1.25216E-06 | 6.27072E-07 | 2.90858E-06 | — | — | — | 1.54302E-06 | 0.000722607 | 1.40664E-05 | 7.04435E-06 | 3.26742E-05 | — | — | 0.000651488 | 1.73338E-05 |
| Cyanide | CN- | — | — | — | 0.000688126 | — | — | — | — | — | — | — | — | — | 0.000614161 | — | — | — | — | — | 0.000614161 | — |
| Lead | Pb | 0.062331539 | — | — | 0.000540649 | 0.007460388 | 5.00003E-05 | 4.83065E-07 | 1.68957E-08 | 4.4209E-05 | — | — | — | 5.29133E-06 | 0.00134481 | 7.43937E-06 | 2.602E-07 | 0.000680834 | — | — | 0.000574789 | 8.14882E-05 |
| Mercury | Hg | 0.000410433 | — | — | 9.40149E-06 | 3.13847E-05 | 1.66677E-07 | 2.05866E-08 | 3.24017E-09 | 1.32703E-07 | — | — | — | 1.01474E-08 | 1.31907E-06 | 1.6292E-07 | 2.56424E-08 | 1.0502E-06 | — | — | — | 8.03058E-08 |
| Methyl-Mercury | Me-Hg | — | — | — | 9.40149E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 0.00047996 | — | — | 5.45929E-05 | 9.38797E-05 | 3.00836E-07 | 1.70794E-11 | 1.49343E-08 | 2.39114E-07 | — | — | — | 4.67705E-08 | 6.60226E-06 | 3.74831E-10 | 3.27753E-07 | 5.24769E-06 | — | — | — | 1.02644E-06 |
| Thallium | Tl | 0.0010225 | — | — | 0.000163979 | 0.0002 | 7.40016E-08 | 9.75136E-11 | 4.5346E-10 | 6.14342E-08 | — | — | — | 1.20165E-08 | 2.81157E-06 | 3.70488E-09 | 1.72285E-08 | 2.33409E-06 | — | — | — | 4.56547E-07 |
| Uranium | U | 0.002045 | — | — | 0.002632129 | 0.0004 | 2.23912E-07 | 1.47563E-09 | 1.3724E-10 | 1.85931E-07 | — | — | — | 3.63679E-08 | 3.52476E-06 | 2.3229E-08 | 2.1604E-09 | 2.92688E-06 | — | — | — | 5.72494E-07 |
| Zinc | Zn | 0.191147205 | — | — | 0.002789631 | 0.053844283 | 8.82478E-05 | 8.32479E-06 | 5.24103E-06 | 5.82684E-05 | — | — | — | 1.64136E-05 | 0.003972252 | 0.000107238 | 6.75139E-05 | 0.000750602 | — | — | 0.00283546 | 0.000211437 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| Phase | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.018781902 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | — | 0.005396231 | 0.150382409 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | 0.131600506 | 0.005396231 | 0.133710416 | 0.001210172 | 0.000190472 | 7.90377E-05 | — |
| Antimony | Sb | 1.01659E-05 | 1.04214E-06 | 1.34202E-07 | 6.42108E-06 | — | — | — | 2.56843E-06 | 0.000473934 | 1.04214E-06 | 1.34202E-07 | 6.42108E-06 | — | — | 0.000463769 | 2.56843E-06 | 0.002047652 | 0.00016237 | 2.09093E-05 | 0.001000431 | — |
| Arsenic | As | 1.55194E-05 | 6.47705E-07 | 2.83177E-07 | 5.72013E-06 | — | — | — | 8.86842E-06 | 0.000597174 | 6.47705E-07 | 2.83177E-07 | 5.72013E-06 | — | — | 0.000581655 | 8.86842E-06 | 0.005291799 | 0.000196578 | 8.59441E-05 | 0.001736058 | — |
| Cadmium | Cd | 2.86426E-05 | 1.64587E-07 | 7.53591E-08 | 2.77536E-05 | — | — | — | 6.49018E-07 | 5.52863E-05 | 1.64587E-07 | 7.53591E-08 | 2.77536E-05 | — | — | 2.66437E-05 | 6.49018E-07 | 0.013206117 | 7.5808E-05 | 3.47101E-05 | 0.012783202 | — |
| Cobalt | Co | 5.38668E-05 | 1.61042E-06 | 4.60851E-07 | 1.21055E-05 | — | — | — | 3.969E-05 | 0.000372825 | 1.61042E-06 | 4.60851E-07 | 1.21055E-05 | — | — | 0.000318958 | 3.969E-05 | 0.012699174 | 0.000368712 | 0.000105513 | 0.002771587 | — |
| Copper | Cu | 7.74678E-05 | 1.53221E-05 | 7.67322E-06 | 3.55912E-05 | — | — | — | 1.88813E-05 | 0.000841208 | 1.53221E-05 | 7.67322E-06 | 3.55912E-05 | — | — | 0.000763741 | 1.88813E-05 | 0.081579735 | 0.015990832 | 0.008008101 | 0.037144445 | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000688103 | — | — | — | — | — | 0.000688103 | — | 0.000688126 | — | — | — | — |
| Lead | Pb | 0.000820136 | 7.92353E-06 | 2.77134E-07 | 0.000725143 | — | — | — | 8.67916E-05 | 0.001508434 | 7.92353E-06 | 2.77134E-07 | 0.000725143 | — | — | 0.000688298 | 8.67916E-05 | 0.071087485 | 0.00068157 | 2.38386E-05 | 0.062375748 | — |
| Mercury | Hg | 1.48614E-06 | 1.83556E-07 | 2.88902E-08 | 1.18322E-06 | — | — | — | 9.04772E-08 | 9.68688E-06 | 1.83556E-07 | 2.88902E-08 | 1.18322E-06 | — | — | 8.20074E-06 | 9.04772E-08 | 0.000525079 | 6.36922E-05 | 1.00247E-05 | 0.000410566 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 8.20074E-06 | — | — | — | — | — | 8.20074E-06 | — | 9.40149E-06 | — | — | — | — |
| Silver | Ag | 6.90378E-06 | 3.9195E-10 | 3.42721E-07 | 5.48735E-06 | — | — | — | 1.07332E-06 | 6.14967E-05 | 3.9195E-10 | 3.42721E-07 | 5.48735E-06 | — | — | 5.45929E-05 | 1.07332E-06 | 0.000658744 | 3.42996E-08 | 2.99916E-05 | 0.000480199 | — |
| Thallium | Tl | 2.8858E-06 | 3.80269E-09 | 1.76834E-08 | 2.39572E-06 | — | — | — | 4.686E-07 | 0.000166864 | 3.80269E-09 | 1.76834E-08 | 2.39572E-06 | — | — | 0.000163979 | 4.686E-07 | 0.001395723 | 1.6231E-06 | 7.54777E-06 | 0.001022561 | — |
| Uranium | U | 3.7493E-06 | 2.47087E-08 | 2.29802E-09 | 3.11333E-06 | — | — | — | 6.08964E-07 | 0.002635878 | 2.47087E-08 | 2.29802E-09 | 3.11333E-06 | — | — | 0.002632129 | 6.08964E-07 | 0.005095092 | 1.62315E-05 | 1.5096E-06 | 0.002045186 | — |
| Zinc | Zn | 0.001225248 | 0.000115583 | 7.27673E-05 | 0.000809008 | — | — | — | 0.00022789 | 0.00721704 | 0.000115583 | 7.27673E-05 | 0.000809008 | — | — | 0.005991792 | 0.00022789 | 0.292371499 | 0.027317472 | 0.017198225 | 0.191205474 | — |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| Media | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Deer Mouse (mg/kg/d) | Dose to Deer Mouse from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.131634223 | 0.000596511 | 0.148356436 | 0.009734779 | 0.001532178 | 0.00063579 | — | — | 0.131655277 | 0.004798412 | 0.150416126 | 0.010947604 | 0.001723067 | 0.000715001 | — | — | 0.131634223 | 0.005396231 | 0.150382409 | 0.010947604 |
| Antimony | Sb | — | 0.000463769 | 0.000400173 | 0.002759155 | 0.000163272 | 2.10254E-05 | 0.001005989 | — | — | 0.001166473 | 0.000402395 | 0.002057135 | 0.000163342 | 2.10345E-05 | 0.001006421 | — | — | 0.000463769 | 0.000402568 | 0.002057135 | 0.000163342 |
| Arsenic | As | — | 0.000581655 | 0.002691563 | 0.009463248 | 0.00019712 | 8.61812E-05 | 0.001740846 | — | — | 0.004740113 | 0.002698987 | 0.005306056 | 0.000197173 | 8.62043E-05 | 0.001741313 | — | — | 0.000581655 | 0.00269971 | 0.005306056 | 0.000197173 |
| Cadmium | Cd | — | 1.34615E-05 | 0.000298935 | 0.013235191 | 7.59513E-05 | 3.47757E-05 | 0.012807369 | — | — | 1.75952E-05 | 0.0002995 | 0.013232911 | 7.5962E-05 | 3.47806E-05 | 0.012809165 | — | — | 1.34615E-05 | 0.000299542 | 0.013246093 | 7.5962E-05 |
| Cobalt | Co | — | 0.00036619 | 0.009087172 | 0.012718851 | 0.000369965 | 0.000105872 | 0.002781007 | — | — | 0.00034395 | 0.009118057 | 0.012747073 | 0.000370144 | 0.000105923 | 0.002782352 | — | — | 0.00036619 | 0.009122464 | 0.012711048 | 0.000370144 |
| Copper | Cu | — | 0.000731081 | 0.019705276 | 0.081644523 | 0.016003646 | 0.008014518 | 0.037174211 | — | — | 0.000731081 | 0.019721067 | 0.081650872 | 0.016004902 | 0.008015147 | 0.037177128 | — | — | 0.000731081 | 0.019722614 | 0.081683532 | 0.016004902 |
| Cyanide | CN- | — | 0.000688126 | — | 0.000688126 | — | — | — | — | — | 0.000688126 | — | 0.000688126 | — | — | — | — | — | 0.000688126 | — | 0.000688103 | — |
| Lead | Pb | — | 0.000540649 | 0.007465679 | 0.071841646 | 0.000688526 | 2.40819E-05 | 0.063012374 | — | — | 0.000574789 | 0.007541876 | 0.07185762 | 0.00068901 | 2.40989E-05 | 0.063056683 | — | — | 0.000540649 | 0.007547179 | 0.072005269 | 0.00068901 |
| Mercury | Hg | — | 9.40149E-06 | 3.13948E-05 | 0.000526232 | 6.38346E-05 | 1.00471E-05 | 0.000411483 | — | — | 9.40241E-06 | 3.1465E-05 | 0.000526398 | 6.38552E-05 | 1.00503E-05 | 0.000411616 | — | — | 9.40149E-06 | 3.14751E-05 | 0.000525198 | 6.38552E-05 |
| Methyl-Mercury | Me-Hg | — | 9.40149E-06 | — | 9.40241E-06 | — | — | — | — | — | 9.40241E-06 | — | 9.40149E-06 | — | — | — | — | — | 9.40149E-06 | — | 8.20074E-06 | — |
| Silver | Ag | — | 5.45929E-05 | 9.39265E-05 | 0.000665046 | 3.46574E-08 | 3.03044E-05 | 0.000485208 | — | — | 5.45929E-05 | 9.49062E-05 | 0.000665347 | 3.46745E-08 | 3.03194E-05 | 0.000485447 | — | — | 5.45929E-05 | 9.4953E-05 | 0.000665347 | 3.46745E-08 |
| Thallium | Tl | — | 0.000163979 | 0.000200012 | 0.001398461 | 1.6267E-06 | 7.56454E-06 | 0.001024834 | — | — | 0.000163979 | 0.000200457 | 0.001398535 | 1.6268E-06 | 7.565E-06 | 0.001024896 | — | — | 0.000163979 | 0.000200469 | 0.001398535 | 1.6268E-06 |
| Uranium | U | — | 0.002632129 | 0.000400036 | 0.005098393 | 1.62532E-05 | 1.51162E-06 | 0.002047927 | — | — | 0.002632129 | 0.000400572 | 0.005098618 | 1.62547E-05 | 1.51176E-06 | 0.002048113 | — | — | 0.002632129 | 0.000400609 | 0.005098618 | 1.62547E-05 |
| Zinc | Zn | — | 0.002789631 | 0.053860697 | 0.293465872 | 0.027416386 | 0.017260498 | 0.191897807 | — | — | 0.00283546 | 0.05405572 | 0.2935085 | 0.02742473 | 0.017265752 | 0.191956214 | — | — | 0.002789631 | 0.054072173 | 0.296710661 | 0.02742473 |

## Table VI-6A Estimated Ecological Exposure Dose: Deer Mouse

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Deer Mouse from the consumption of Plant_2 (mg/kg/d) | Dose to Deer Mouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of — (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Deer Mouse from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001723067 | 0.000715001 | — | — | 0.131600506 | 0.005396231 |
| Antimony | Sb | 2.10345E-05 | 0.001006421 | — | — | 0.000463769 | 0.000402568 |
| Arsenic | As | 8.62043E-05 | 0.001741313 | — | — | 0.000581655 | 0.00269971 |
| Cadmium | Cd | 3.47806E-05 | 0.012809165 | — | — | 2.66437E-05 | 0.000299542 |
| Cobalt | Co | 0.000105923 | 0.002782352 | — | — | 0.000330165 | 0.009122464 |
| Copper | Cu | 0.008015147 | 0.037177128 | — | — | 0.000763741 | 0.019722614 |
| Cyanide | CN- | — | — | — | — | 0.000688103 | — |
| Lead | Pb | 2.40989E-05 | 0.063056683 | — | — | 0.000688298 | 0.007547179 |
| Mercury | Hg | 1.00503E-05 | 0.000411616 | — | — | 8.20074E-06 | 3.14751E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 8.20074E-06 | — |
| Silver | Ag | 3.03194E-05 | 0.000485447 | — | — | 5.45929E-05 | 9.4953E-05 |
| Thallium | Tl | 7.565E-06 | 0.001024896 | — | — | 0.000163979 | 0.000200469 |
| Uranium | U | 1.51176E-06 | 0.002048113 | — | — | 0.002632129 | 0.000400609 |
| Zinc | Zn | 0.017265752 | 0.191956214 | — | — | 0.005991792 | 0.054072173 |

## Table VI-6B Estimated Ecological Risk: Deer Mouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.068204261 | 0.006820426 | 23.74014328 | 2.374014328 | 23.75973395 | 2.375973395 | 0.019590674 | 0.001959067 | 23.74014328 | 2.374014328 | 0.199294686 | 0.019929469 | 23.80834754 | 2.380834754 | 23.75973395 | 2.375973395 | 23.80834754 | 2.380834754 | 0.199294686 | 0.019929469 | 0.068204261 |
| Antimony | Sb | 0.01637575 | 0.001637575 | 0.118924558 | 0.011892456 | 0.121964558 | 0.012196456 | 0.00304 | 0.000304 | 0.118924558 | 0.011892456 | 0.0033475 | 0.00033475 | 0.122634707 | 0.012263471 | 0.121964558 | 0.012196456 | 0.122634707 | 0.012263471 | 0.016013102 | 0.00160131 | 0.01637575 |
| Arsenic | As | 0.040696432 | 0.004069643 | 0.20963322 | 0.020963322 | 0.235940912 | 0.023594091 | 0.026307692 | 0.002630769 | 0.20963322 | 0.020963322 | 0.004758253 | 0.000475825 | 0.214107488 | 0.021410749 | 0.235940912 | 0.023594091 | 0.214107488 | 0.021410749 | 0.040980416 | 0.004098042 | 0.040696432 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.001731679 | 0.00144241 | 0.017746247 | 0.014781817 | 0.017849931 | 0.014868181 | 0.000103683 | 8.63636E-05 | 0.017746247 | 0.014781817 | 0.000168273 | 0.000140164 | 0.017796205 | 0.01482343 | 0.017849931 | 0.014868181 | 0.017796205 | 0.01482343 | 0.001849994 | 0.001540961 | 0.001731679 |
| Copper | Cu | 0.006972086 | 0.00538794 | 0.011029807 | 0.008523695 | 0.011322114 | 0.008749586 | 0.000292308 | 0.000225892 | 0.011029807 | 0.008523695 | 0.000209529 | 0.000161921 | 0.011092292 | 0.008571983 | 0.011322114 | 0.008749586 | 0.011092292 | 0.008571983 | 0.007119129 | 0.005501573 | 0.006972086 |
| Cyanide | CN- | 9.97284E-06 | 9.97284E-06 | — | — | 0.002753623 | 0.002753623 | 0.002753623 | 0.002753623 | — | — | 1.37681E-05 | 1.37681E-05 | 9.97284E-06 | 9.97284E-06 | 0.002753623 | 0.002753623 | 9.97284E-06 | 9.97284E-06 | 1.37681E-05 | 1.37681E-05 | 9.97284E-06 |
| Lead | Pb | 0.008879686 | 0.000887969 | 0.136766762 | 0.013676676 | 0.138714262 | 0.013871426 | 0.0019475 | 0.00019475 | 0.136766762 | 0.013676676 | 0.002080703 | 0.00020807 | 0.136834343 | 0.013683434 | 0.138714262 | 0.013871426 | 0.136834343 | 0.013683434 | 0.010892807 | 0.001089281 | 0.008879686 |
| Mercury | Hg | 0.000524912 | 0.000524912 | 0.003610319 | 0.003610319 | 0.003952319 | 0.003952319 | 0.000342 | 0.000342 | 0.003610319 | 0.003610319 | 6.73357E-05 | 6.73357E-05 | 0.003619721 | 0.003619721 | 0.003952319 | 0.003952319 | 0.003619721 | 0.003619721 | 0.000582846 | 0.000582846 | 0.000524912 |
| Methyl-Mercury | Me-Hg | 0.000293797 | 5.87593E-05 | — | — | 0.0106875 | 0.0021375 | 0.0106875 | 0.0021375 | — | — | 0.0011875 | 0.0002375 | 0.000293797 | 5.87593E-05 | 0.0106875 | 0.0021375 | 0.000293797 | 5.87593E-05 | 0.0011875 | 0.0002375 | 0.000293797 |
| Silver | Ag | 0.000109376 | 1.09376E-05 | 0.001089594 | 0.000108959 | 0.001091172 | 0.000109117 | 1.57807E-06 | 1.57807E-07 | 0.001089594 | 0.000108959 | 2.48283E-05 | 2.48283E-06 | 0.001098662 | 0.000109866 | 0.001091172 | 0.000109117 | 0.001098662 | 0.000109866 | 0.000125136 | 1.25136E-05 | 0.000109376 |
| Thallium | Tl | 0.188601214 | 0.018860121 | 0.19873591 | 0.019873591 | 16.68251969 | 1.668251969 | 16.48378378 | 1.648378378 | 0.19873591 | 0.019873591 | 0.01500409 | 0.001500409 | 0.22089519 | 0.022089519 | 16.68251969 | 1.668251969 | 0.22089519 | 0.022089519 | 0.181446024 | 0.018144602 | 0.188601214 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.00182677 | 0.000913385 | 0.011933211 | 0.005966606 | 0.011980711 | 0.005990356 | 0.0000475 | 0.00002375 | 0.011933211 | 0.005966606 | 0.000183174 | 9.15872E-05 | 0.011950646 | 0.005975323 | 0.011980711 | 0.005990356 | 0.011950646 | 0.005975323 | 0.00199251 | 0.000996255 | 0.00182677 |

## Table VI-6B Estimated Ecological Risk: Deer Mouse

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| **Phase** | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.006820426 | 0.001075747 | 0.000107575 | 0.00865345 | 0.000865345 | 0.009731556 | 0.000973156 | 0.077918347 | 0.007791835 | 0.069280008 | 0.006928001 | 0.07686862 | 0.007686862 | 0.077935816 | 0.007793582 | 0.077918347 | 0.007791835 | 0.068204261 | 0.006820426 | 0.001075747 | 0.000107575 |
| Antimony | Sb | 0.001637575 | 5.46458E-06 | 5.46458E-07 | 0.009407637 | 0.000940764 | 8.13268E-05 | 8.13268E-06 | 0.003791475 | 0.000379148 | 0.016381215 | 0.001638121 | 0.022073239 | 0.002207324 | 0.016457077 | 0.001645708 | 0.016457077 | 0.001645708 | 0.01637575 | 0.001637575 | 5.46458E-06 | 5.46458E-07 |
| Arsenic | As | 0.004069643 | 9.7157E-06 | 9.7157E-07 | 0.036572049 | 0.003657205 | 0.00011938 | 1.1938E-05 | 0.004593649 | 0.000459365 | 0.040706147 | 0.004070615 | 0.072794213 | 0.007279421 | 0.040815812 | 0.004081581 | 0.040815812 | 0.004081581 | 0.040696432 | 0.004069643 | 9.7157E-06 | 9.7157E-07 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.00144241 | 8.14195E-07 | 6.78187E-07 | 6.53274E-06 | 5.44147E-06 | 7.34881E-06 | 6.12122E-06 | 5.08628E-05 | 4.23664E-05 | 0.001732493 | 0.001443088 | 0.001735178 | 0.001445324 | 0.001739028 | 0.001448531 | 0.001734113 | 0.001444437 | 0.001731679 | 0.00144241 | 8.14195E-07 | 6.78187E-07 |
| Copper | Cu | 0.00538794 | 5.41096E-07 | 4.18152E-07 | 6.17613E-05 | 4.77283E-05 | 6.62118E-06 | 5.11676E-06 | 7.18982E-05 | 5.5562E-05 | 0.006972627 | 0.005388358 | 0.006978164 | 0.005392637 | 0.006978707 | 0.005393056 | 0.006981498 | 0.005395213 | 0.006972086 | 0.00538794 | 5.41096E-07 | 4.18152E-07 |
| Cyanide | CN- | 9.97284E-06 | — | — | 8.90088E-06 | 8.90088E-06 | — | — | 9.97251E-06 | 9.97251E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97251E-06 | 9.97251E-06 | 9.97284E-06 | 9.97284E-06 | — | — |
| Lead | Pb | 0.000887969 | 6.25004E-06 | 6.25004E-07 | 0.000168101 | 1.68101E-05 | 0.000102517 | 1.02517E-05 | 0.000188554 | 1.88554E-05 | 0.008885936 | 0.000888594 | 0.008980206 | 0.000898021 | 0.008982203 | 0.00089822 | 0.009000659 | 0.000900066 | 0.008879686 | 0.000887969 | 6.25004E-06 | 6.25004E-07 |
| Mercury | Hg | 0.000524912 | 1.66677E-07 | 1.66677E-07 | 1.31907E-06 | 1.31907E-06 | 1.48614E-06 | 1.48614E-06 | 9.68688E-06 | 9.68688E-06 | 0.000525079 | 0.000525079 | 0.000526232 | 0.000526232 | 0.000526398 | 0.000526398 | 0.000525198 | 0.000525198 | 0.000524912 | 0.000524912 | 1.66677E-07 | 1.66677E-07 |
| Methyl-Mercury | Me-Hg | 5.87593E-05 | — | — | — | — | — | — | 0.000256273 | 5.12546E-05 | 0.000293797 | 5.87593E-05 | 0.000293825 | 5.87651E-05 | 0.000293797 | 5.87593E-05 | 0.000256273 | 5.12546E-05 | 0.000293797 | 5.87593E-05 | — | — |
| Silver | Ag | 1.09376E-05 | 4.99728E-08 | 4.99728E-09 | 1.09672E-06 | 1.09672E-07 | 1.14681E-06 | 1.14681E-07 | 1.02154E-05 | 1.02154E-06 | 0.000109426 | 1.09426E-05 | 0.000110473 | 1.10473E-05 | 0.000110523 | 1.10523E-05 | 0.000110523 | 1.10523E-05 | 0.000109376 | 1.09376E-05 | 4.99728E-08 | 4.99728E-09 |
| Thallium | Tl | 0.018860121 | 1.00002E-05 | 1.00002E-06 | 0.000379942 | 3.79942E-05 | 0.000389974 | 3.89974E-05 | 0.022549253 | 0.002254925 | 0.188611214 | 0.018861121 | 0.188981156 | 0.018898116 | 0.188991187 | 0.018899119 | 0.188991187 | 0.018899119 | 0.188601214 | 0.018860121 | 1.00002E-05 | 1.00002E-06 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000913385 | 5.51549E-07 | 2.75774E-07 | 2.48266E-05 | 1.24133E-05 | 7.6578E-06 | 3.8289E-06 | 4.51065E-05 | 2.25533E-05 | 0.001827322 | 0.000913661 | 0.001834162 | 0.000917081 | 0.001834428 | 0.000917214 | 0.001854442 | 0.000927221 | 0.00182677 | 0.000913385 | 5.51549E-07 | 2.75774E-07 |

## Table VI-6B Estimated Ecological Risk: Deer Mouse

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) | Risk to Deer Mouse (NOAELm) | Risk to Deer Mouse (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.00865345 | 0.000865345 | 0.009731556 | 0.000973156 | 0.077918347 | 0.007791835 | 0.069280008 | 0.006928001 | 0.07686862 | 0.007686862 | 0.077935816 | 0.007793582 |
| Antimony | Sb | 0.009407637 | 0.000940764 | 8.13268E-05 | 8.13268E-06 | 0.003791475 | 0.000379148 | 0.016381215 | 0.001638121 | 0.022073239 | 0.002207324 | 0.016457077 | 0.001645708 |
| Arsenic | As | 0.036572049 | 0.003657205 | 0.00011938 | 1.1938E-05 | 0.004593649 | 0.000459365 | 0.040706147 | 0.004070615 | 0.072794213 | 0.007279421 | 0.040815812 | 0.004081581 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 6.53274E-06 | 5.44147E-06 | 7.34881E-06 | 6.12122E-06 | 5.08628E-05 | 4.23664E-05 | 0.001732493 | 0.001443088 | 0.001735178 | 0.001445324 | 0.001739028 | 0.001448531 |
| Copper | Cu | 6.17613E-05 | 4.77283E-05 | 6.62118E-06 | 5.11676E-06 | 7.18982E-05 | 5.5562E-05 | 0.006972627 | 0.005388358 | 0.006978164 | 0.005392637 | 0.006978707 | 0.005393056 |
| Cyanide | CN- | 8.90088E-06 | 8.90088E-06 | — | — | 9.97251E-06 | 9.97251E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 | 9.97284E-06 |
| Lead | Pb | 0.000168101 | 1.68101E-05 | 0.000102517 | 1.02517E-05 | 0.000188554 | 1.88554E-05 | 0.008885936 | 0.000888594 | 0.008980206 | 0.000898021 | 0.008982203 | 0.00089822 |
| Mercury | Hg | 1.31907E-06 | 1.31907E-06 | 1.48614E-06 | 1.48614E-06 | 9.68688E-06 | 9.68688E-06 | 0.000525079 | 0.000525079 | 0.000526232 | 0.000526232 | 0.000526398 | 0.000526398 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000256273 | 5.12546E-05 | 0.000293797 | 5.87593E-05 | 0.000293825 | 5.87651E-05 | 0.000293797 | 5.87593E-05 |
| Silver | Ag | 1.09672E-06 | 1.09672E-07 | 1.14681E-06 | 1.14681E-07 | 1.02154E-05 | 1.02154E-06 | 0.000109426 | 1.09426E-05 | 0.000110473 | 1.10473E-05 | 0.000110523 | 1.10523E-05 |
| Thallium | Tl | 0.000379942 | 3.79942E-05 | 0.000389974 | 3.89974E-05 | 0.022549253 | 0.002254925 | 0.188611214 | 0.018861121 | 0.188981156 | 0.018898116 | 0.188991187 | 0.018899119 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 2.48266E-05 | 1.24133E-05 | 7.6578E-06 | 3.8289E-06 | 4.51065E-05 | 2.25533E-05 | 0.001827322 | 0.000913661 | 0.001834162 | 0.000917081 | 0.001834428 | 0.000917214 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.091163541 | — | 0.001096989 | 1.031E-06 | — | — | 0.090065521 | — | 54.30390658 | 4.796673633 | 13.30556364 | 0.000358866 | — | — | — | 36.20131044 | 54.33009197 | 4.796673633 | 13.30587873 | 0.000359162 | — |
| Antimony | Sb | 0.004279233 | 0.00275 | 0.000111907 | 1.06884E-08 | — | — | 0.000317315 | 0.0011 | 0.037179613 | 0.025821318 | 0.00102969 | 7.76215E-08 | — | — | — | 0.010328527 | 0.037441453 | 0.025821318 | 0.001031529 | 7.96057E-08 | — |
| Arsenic | As | 0.013094459 | 0.00477288 | 0.000523735 | 5.52497E-08 | — | — | 0.000397974 | 0.007399815 | 0.073440159 | 0.027622709 | 0.00299126 | 2.84599E-07 | — | — | — | 0.042825906 | 0.075820648 | 0.027622709 | 0.003031713 | 3.20315E-07 | — |
| Cadmium | Cd | 0.03628136 | 0.03514888 | 0.000301305 | 8.27363E-09 | — | — | 9.21048E-06 | 0.000821956 | 0.107405486 | 0.104079448 | 0.000892119 | 2.44741E-08 | — | — | — | 0.002433895 | 0.10766621 | 0.104079448 | 0.000892843 | 2.47122E-08 | — |
| Cobalt | Co | 0.032913221 | 0.007618177 | 6.55384E-05 | 1.32557E-06 | — | — | 0.000250551 | 0.024977629 | 0.34466741 | 0.080390289 | 0.00068882 | 1.35844E-05 | — | — | — | 0.263574717 | 0.345188034 | 0.080390289 | 0.000689364 | 1.36638E-05 | — |
| Copper | Cu | 0.198117576 | 0.102139226 | 0.04128861 | 4.25941E-06 | — | — | 0.000500213 | 0.054185266 | 0.31542571 | 0.163045022 | 0.065877916 | 6.73836E-06 | — | — | — | 0.086496033 | 0.317857214 | 0.163045022 | 0.065969241 | 6.91694E-06 | — |
| Cyanide | CN- | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 | — | — | — | — | — | — | — | — | — | 0.131590331 | — | 0.001583386 | 6.94468E-06 | — |
| Lead | Pb | 0.193313674 | 0.171411733 | 0.001015845 | 1.11278E-07 | — | — | 0.000369918 | 0.020516066 | 2.99454006 | 2.660366526 | 0.015755719 | 1.71393E-06 | — | — | — | 0.318416101 | 3.00521963 | 2.660366526 | 0.015775264 | 1.73833E-06 | — |
| Mercury | Hg | 0.001293587 | 0.001128691 | 7.21283E-05 | 2.74086E-08 | — | — | 6.4326E-06 | 8.63078E-05 | 0.009013882 | 0.007904654 | 0.000504593 | 1.88515E-07 | — | — | — | 0.000604447 | 0.00925075 | 0.007904654 | 0.000507443 | 2.06373E-07 | — |
| Methyl-Mercury | Me-Hg | 6.43324E-06 | — | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 | — | — | — | — | — | — | — | — | — | 0.000234023 | — | 2.1912E-08 | 1.3929E-09 | — |
| Silver | Ag | 0.001671767 | 0.00131989 | 5.63442E-05 | 1.03143E-08 | — | — | 3.73531E-05 | 0.000258169 | 0.01774894 | 0.014337364 | 0.000607099 | 1.0275E-07 | — | — | — | 0.002804374 | 0.017755519 | 0.014337364 | 0.000607178 | 1.02899E-07 | — |
| Thallium | Tl | 0.003539104 | 0.002811875 | 6.47412E-05 | 2.91499E-07 | — | — | 0.000112196 | 0.00055 | 0.004090827 | 0.00335745 | 7.63553E-05 | 3.07163E-07 | — | — | — | 0.000656714 | 0.088166549 | 0.00335745 | 0.000666601 | 2.57842E-05 | — |
| Uranium | U | 0.008535251 | 0.00562375 | 1.05678E-05 | 2.4241E-09 | — | — | 0.00180093 | 0.0011 | 0.012622138 | 0.010542075 | 1.80414E-05 | 2.19652E-09 | — | — | — | 0.00206202 | 0.013272479 | 0.010542075 | 1.83819E-05 | 2.64852E-09 | — |
| Zinc | Zn | 3.098936616 | 0.525654815 | 2.42330119 | 1.37356E-07 | — | — | 0.001908695 | 0.148071779 | 20.41567429 | 3.466881184 | 15.97220596 | 8.97264E-07 | — | — | — | 0.976586249 | 20.4251416 | 3.466881184 | 15.97647327 | 9.00836E-07 | — |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.02587 | 36.20131044 | 54.30390658 | 4.796673633 | 13.30556364 | 0.000358866 | — | — | — | 36.20131044 | 0.448852378 | 0.038775491 | 0.107678659 | 3.01262E-06 | — | — | 0.00975 | 0.292645215 | 54.39507012 | 4.796673633 |
| Antimony | Sb | — | 0.00026 | 0.010328527 | 0.037179613 | 0.025821318 | 0.00102969 | 7.76215E-08 | — | — | — | 0.010328527 | 0.000642204 | 0.000339228 | 1.46073E-05 | 2.1849E-09 | — | — | 0.000152675 | 0.000135691 | 0.037499174 | 0.025821318 |
| Arsenic | As | — | 0.00234 | 0.042825906 | 0.073440159 | 0.027622709 | 0.00299126 | 2.84599E-07 | — | — | — | 0.042825906 | 0.001031656 | 0.000304821 | 3.67686E-05 | 6.45983E-09 | — | — | 0.000217469 | 0.000472591 | 0.07384502 | 0.027622709 |
| Cadmium | Cd | — | 0.00026 | 0.002433895 | 0.107405486 | 0.104079448 | 0.000892119 | 2.44741E-08 | — | — | — | 0.002433895 | 0.001536719 | 0.001463867 | 1.26199E-05 | 3.68036E-10 | — | — | 0.000026 | 3.42325E-05 | 0.107414723 | 0.104079448 |
| Cobalt | Co | — | 0.00052 | 0.263574717 | 0.34466741 | 0.080390289 | 0.00068882 | 1.35844E-05 | — | — | — | 0.263574717 | 0.002932249 | 0.000656596 | 5.74859E-06 | 1.2881E-07 | — | — | 0.000117 | 0.002152775 | 0.344918262 | 0.080390289 |
| Copper | Cu | — | 0.00234 | 0.086496033 | 0.31542571 | 0.163045022 | 0.065877916 | 6.73836E-06 | — | — | — | 0.086496033 | 0.004345409 | 0.001897035 | 0.00079186 | 1.28006E-07 | — | — | 0.00065 | 0.001006385 | 0.315945484 | 0.163045022 |
| Cyanide | CN- | — | 0.13 | — | — | — | — | — | — | — | — | — | 0.000657952 | — | 7.91693E-06 | 3.47234E-08 | — | — | 0.00065 | — | 0.000476583 | — |
| Lead | Pb | — | 0.01066 | 0.318416101 | 2.99454006 | 2.660366526 | 0.015755719 | 1.71393E-06 | — | — | — | 0.318416101 | 0.043608611 | 0.038163616 | 0.000227211 | 2.60749E-08 | — | — | 0.00065 | 0.004567758 | 2.994910657 | 2.660366526 |
| Mercury | Hg | — | 0.000234 | 0.000604447 | 0.009013882 | 0.007904654 | 0.000504593 | 1.88515E-07 | — | — | — | 0.000604447 | 9.95612E-05 | 6.42294E-05 | 4.41676E-06 | 3.51598E-09 | — | — | 0.000026 | 4.91145E-06 | 0.009020394 | 0.007904654 |
| Methyl-Mercury | Me-Hg | — | 0.000234 | — | — | — | — | — | — | — | — | — | 2.60026E-05 | — | 2.43467E-09 | 1.54767E-10 | — | — | 0.000026 | — | 6.43324E-06 | — |
| Silver | Ag | — | 0.0000065 | 0.002804374 | 0.01774894 | 0.014337364 | 0.000607099 | 1.0275E-07 | — | — | — | 0.002804374 | 0.000366683 | 0.00028571 | 1.22543E-05 | 2.34135E-09 | — | — | 1.28317E-05 | 5.58845E-05 | 0.017786749 | 0.014337364 |
| Thallium | Tl | — | 0.08346 | 0.000656714 | 0.004090827 | 0.00335745 | 7.63553E-05 | 3.07163E-07 | — | — | — | 0.000656714 | 0.000189581 | 0.00012335 | 3.08104E-06 | 2.31901E-08 | — | — | 0.000039 | 2.41271E-05 | 0.00420385 | 0.00335745 |
| Uranium | U | — | 0.00065 | 0.00206202 | 0.012622138 | 0.010542075 | 1.80414E-05 | 2.19652E-09 | — | — | — | 0.00206202 | 0.000846374 | 0.000163728 | 6.20712E-07 | 4.86116E-10 | — | — | 0.00065 | 3.2025E-05 | 0.014424014 | 0.010542075 |
| Zinc | Zn | — | 0.0052 | 0.976586249 | 20.41567429 | 3.466881184 | 15.97220596 | 8.97264E-07 | — | — | — | 0.976586249 | 0.259532265 | 0.042866622 | 0.200690525 | 1.3773E-08 | — | — | 0.0039 | 0.012075105 | 20.41914933 | 3.466881184 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 13.30666063 | 0.000359897 | — | — | 0.090065521 | 36.20131044 | 54.33009197 | 4.796673633 | 13.30587873 | 0.000359162 | — | — | 0.02587 | 36.20131044 | 54.39507012 | 4.796673633 | 13.30666063 | 0.000359897 | — | — | 0.090065521 |
| Antimony | Sb | 0.001031934 | 8.00431E-08 | — | — | 0.000317315 | 0.010328527 | 0.037441453 | 0.025821318 | 0.001031529 | 7.96057E-08 | — | — | 0.00026 | 0.010328527 | 0.037499174 | 0.025821318 | 0.001031934 | 8.00431E-08 | — | — | 0.000317315 |
| Arsenic | As | 0.00299814 | 2.90674E-07 | — | — | 0.000397974 | 0.042825906 | 0.075820648 | 0.027622709 | 0.003031713 | 3.20315E-07 | — | — | 0.00234 | 0.042825906 | 0.07384502 | 0.027622709 | 0.00299814 | 2.90674E-07 | — | — | 0.000397974 |
| Cadmium | Cd | 0.000892145 | 2.44825E-08 | — | — | 9.21048E-06 | 0.002433895 | 0.10766621 | 0.104079448 | 0.000892843 | 2.47122E-08 | — | — | 0.00026 | 0.002433895 | 0.107414723 | 0.104079448 | 0.000892145 | 2.44825E-08 | — | — | 9.21048E-06 |
| Cobalt | Co | 0.000689082 | 1.36227E-05 | — | — | 0.000250551 | 0.263574717 | 0.345188034 | 0.080390289 | 0.000689364 | 1.36638E-05 | — | — | 0.00052 | 0.263574717 | 0.344918262 | 0.080390289 | 0.000689082 | 1.36227E-05 | — | — | 0.000250551 |
| Copper | Cu | 0.065897438 | 6.77653E-06 | — | — | 0.000500213 | 0.086496033 | 0.317857214 | 0.163045022 | 0.065969241 | 6.91694E-06 | — | — | 0.00234 | 0.086496033 | 0.315945484 | 0.163045022 | 0.065897438 | 6.77653E-06 | — | — | 0.000500213 |
| Cyanide | CN- | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 | — | 0.131590331 | — | 0.001583386 | 6.94468E-06 | — | — | 0.13 | — | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 |
| Lead | Pb | 0.015756397 | 1.71477E-06 | — | — | 0.000369918 | 0.318416101 | 3.00521963 | 2.660366526 | 0.015775264 | 1.73833E-06 | — | — | 0.01066 | 0.318416101 | 2.994910657 | 2.660366526 | 0.015756397 | 1.71477E-06 | — | — | 0.000369918 |
| Mercury | Hg | 0.000504672 | 1.89006E-07 | — | — | 6.4326E-06 | 0.000604447 | 0.00925075 | 0.007904654 | 0.000507443 | 2.06373E-07 | — | — | 0.000234 | 0.000604447 | 0.009020394 | 0.007904654 | 0.000504672 | 1.89006E-07 | — | — | 6.4326E-06 |
| Methyl-Mercury | Me-Hg | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 | — | 0.000234023 | — | 2.1912E-08 | 1.3929E-09 | — | — | 0.000234 | — | 6.43324E-06 | — | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 |
| Silver | Ag | 0.000607554 | 1.03605E-07 | — | — | 3.73531E-05 | 0.002804374 | 0.017755519 | 0.014337364 | 0.000607178 | 1.02899E-07 | — | — | 0.0000065 | 0.002804374 | 0.017786749 | 0.014337364 | 0.000607554 | 1.03605E-07 | — | — | 3.73531E-05 |
| Thallium | Tl | 7.71487E-05 | 3.41412E-07 | — | — | 0.000112196 | 0.000656714 | 0.088166549 | 0.00335745 | 0.000666601 | 2.57842E-05 | — | — | 0.08346 | 0.000656714 | 0.00420385 | 0.00335745 | 7.71487E-05 | 3.41412E-07 | — | — | 0.000112196 |
| Uranium | U | 1.89848E-05 | 3.44887E-09 | — | — | 0.00180093 | 0.00206202 | 0.013272479 | 0.010542075 | 1.83819E-05 | 2.64852E-09 | — | — | 0.00065 | 0.00206202 | 0.014424014 | 0.010542075 | 1.89848E-05 | 3.44887E-09 | — | — | 0.00180093 |
| Zinc | Zn | 15.9737723 | 8.98575E-07 | — | — | 0.001908695 | 0.976586249 | 20.4251416 | 3.466881184 | 15.97647327 | 9.00836E-07 | — | — | 0.0052 | 0.976586249 | 20.41914933 | 3.466881184 | 15.9737723 | 8.98575E-07 | — | — | 0.001908695 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 36.20131044 | 0.448852378 | 0.038775491 | 0.107678659 | 3.01262E-06 | — | — | 0.00975 | 0.292645215 | 0.091163541 | — | 0.001096989 | 1.031E-06 | — | — | 0.090065521 | — | 0.002460696 | 0.000217354 | 0.000602921 | 1.62615E-08 |
| Antimony | Sb | 0.010328527 | 0.004601875 | 0.003089228 | 0.00012427 | 1.04517E-08 | — | — | 0.000152675 | 0.001235691 | 0.004279233 | 0.00275 | 0.000111907 | 1.06884E-08 | — | — | 0.000317315 | 0.0011 | 1.7084E-06 | 1.18649E-06 | 4.73142E-08 | 3.56671E-12 |
| Arsenic | As | 0.042825906 | 0.013721255 | 0.005077702 | 0.000553623 | 5.56353E-08 | — | — | 0.000217469 | 0.007872406 | 0.013094459 | 0.00477288 | 0.000523735 | 5.52497E-08 | — | — | 0.000397974 | 0.007399815 | 3.40367E-06 | 1.28021E-06 | 1.38633E-07 | 1.31901E-11 |
| Cadmium | Cd | 0.002433895 | 0.037808843 | 0.036612747 | 0.000313899 | 8.63323E-09 | — | — | 0.000026 | 0.000856188 | 0.03628136 | 0.03514888 | 0.000301305 | 8.27363E-09 | — | — | 9.21048E-06 | 0.000821956 | 5.08371E-06 | 4.92628E-06 | 4.22257E-08 | 1.15841E-12 |
| Cobalt | Co | 0.263574717 | 0.035594618 | 0.008274773 | 7.10245E-05 | 1.41614E-06 | — | — | 0.000117 | 0.027130404 | 0.032913221 | 0.007618177 | 6.55384E-05 | 1.32557E-06 | — | — | 0.000250551 | 0.024977629 | 1.58133E-05 | 3.68829E-06 | 3.16029E-08 | 6.23251E-10 |
| Copper | Cu | 0.086496033 | 0.20194321 | 0.104036262 | 0.042060948 | 4.34924E-06 | — | — | 0.00065 | 0.055191651 | 0.198117576 | 0.102139226 | 0.04128861 | 4.25941E-06 | — | — | 0.000500213 | 0.054185266 | 1.5474E-05 | 7.99861E-06 | 3.23182E-06 | 3.30568E-10 |
| Cyanide | CN- | — | 0.000657952 | — | 7.91693E-06 | 3.47234E-08 | — | — | 0.00065 | — | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 | — | — | — | — | — |
| Lead | Pb | 0.318416101 | 0.236551688 | 0.209575349 | 0.001242378 | 1.36506E-07 | — | — | 0.00065 | 0.025083824 | 0.193313674 | 0.171411733 | 0.001015845 | 1.11278E-07 | — | — | 0.000369918 | 0.020516066 | 0.000136846 | 0.000121575 | 7.20013E-07 | 7.83239E-11 |
| Mercury | Hg | 0.000604447 | 0.001386636 | 0.00119292 | 7.64667E-05 | 3.04337E-08 | — | — | 0.000026 | 9.12193E-05 | 0.001293587 | 0.001128691 | 7.21283E-05 | 2.74086E-08 | — | — | 6.4326E-06 | 8.63078E-05 | 4.16143E-07 | 3.64933E-07 | 2.32955E-08 | 8.70315E-12 |
| Methyl-Mercury | Me-Hg | — | 2.60026E-05 | — | 2.43467E-09 | 1.54767E-10 | — | — | 0.000026 | — | 6.43324E-06 | — | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 | — | — | — | — | — |
| Silver | Ag | 0.002804374 | 0.002000641 | 0.0016056 | 6.81436E-05 | 1.18005E-08 | — | — | 1.28317E-05 | 0.000314054 | 0.001671767 | 0.00131989 | 5.63442E-05 | 1.03143E-08 | — | — | 3.73531E-05 | 0.000258169 | 8.14031E-07 | 6.57564E-07 | 2.78438E-08 | 4.7125E-12 |
| Thallium | Tl | 0.000656714 | 0.003615661 | 0.002935225 | 6.70288E-05 | 2.8044E-07 | — | — | 0.000039 | 0.000574127 | 0.003539104 | 0.002811875 | 6.47412E-05 | 2.91499E-07 | — | — | 0.000112196 | 0.00055 | 2.05847E-07 | 1.68944E-07 | 3.84213E-09 | 1.54562E-11 |
| Uranium | U | 0.00206202 | 0.007579749 | 0.005787478 | 1.0245E-05 | 1.65787E-09 | — | — | 0.00065 | 0.001132025 | 0.008535251 | 0.00562375 | 1.05678E-05 | 2.4241E-09 | — | — | 0.00180093 | 0.0011 | 6.12197E-07 | 5.1131E-07 | 8.7504E-10 | 1.06535E-13 |
| Zinc | Zn | 0.976586249 | 3.35499384 | 0.568521437 | 2.62242537 | 1.49818E-07 | — | — | 0.0039 | 0.160146884 | 3.098936616 | 0.525654815 | 2.42330119 | 1.37356E-07 | — | — | 0.001908695 | 0.148071779 | 0.000943605 | 0.000160238 | 0.00073823 | 4.14712E-11 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.001640405 | 0.019794159 | 0.001748422 | 0.004849972 | 1.30809E-07 | — | — | — | 0.013195634 | 0.022260248 | 0.001966252 | 0.005454214 | 1.47106E-07 | — | — | — | 0.014839635 | 0.113400438 |
| Antimony | Sb | — | — | — | 4.74596E-07 | 0.000827477 | 1.64687E-05 | 6.30115E-06 | 6.14032E-09 | — | — | 0.000798113 | 6.58749E-06 | 2.54254E-05 | 1.7658E-05 | 7.04156E-07 | 5.30816E-11 | — | — | — | 7.06318E-06 | 0.000344987 |
| Arsenic | As | — | — | — | 1.98482E-06 | 0.003337763 | 1.44471E-05 | 5.76322E-05 | 4.96504E-08 | — | — | 0.003243235 | 2.23986E-05 | 4.18221E-05 | 1.57304E-05 | 1.70344E-06 | 1.62071E-10 | — | — | — | 2.43882E-05 | 0.000446683 |
| Cadmium | Cd | — | — | — | 1.15201E-07 | 8.5737E-05 | 7.13835E-05 | 6.45369E-07 | 2.78106E-11 | — | — | 1.20388E-05 | 1.6693E-06 | 7.87615E-05 | 7.63225E-05 | 6.54199E-07 | 1.79471E-11 | — | — | — | 1.7848E-06 | 9.70422E-05 |
| Cobalt | Co | — | — | — | 1.20928E-05 | 0.000126879 | 2.95932E-05 | 2.53568E-07 | 5.00069E-09 | — | — | — | 9.7027E-05 | 0.000142728 | 3.329E-05 | 2.85244E-07 | 5.62537E-09 | — | — | — | 0.000109148 | 0.000361225 |
| Copper | Cu | — | — | — | 4.24329E-06 | 0.000637017 | 8.98541E-05 | 5.37023E-05 | 3.77314E-08 | — | — | 0.000445755 | 4.76679E-05 | 0.00018935 | 9.78757E-05 | 3.95464E-05 | 4.04503E-09 | — | — | — | 5.19235E-05 | 0.000732343 |
| Cyanide | CN- | — | — | — | — | 0.000425356 | — | 5.11818E-06 | 2.24482E-08 | — | — | 0.000420215 | — | — | — | — | — | — | — | — | — | 0.000476567 |
| Lead | Pb | — | — | — | 1.45511E-05 | 0.002501475 | 0.001872294 | 1.18095E-05 | 2.1066E-09 | — | — | 0.000393276 | 0.000224093 | 0.002244633 | 0.001994145 | 1.18101E-05 | 1.28472E-09 | — | — | — | 0.000238677 | 0.002716438 |
| Mercury | Hg | — | — | — | 2.79054E-08 | 3.29332E-06 | 2.88805E-06 | 1.84358E-07 | 6.8876E-11 | — | — | — | 2.20841E-07 | 3.71044E-06 | 3.25384E-06 | 2.07709E-07 | 7.75996E-11 | — | — | — | 2.48812E-07 | 9.39024E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.61159E-06 |
| Silver | Ag | — | — | — | 1.28619E-07 | 1.7865E-05 | 1.44311E-05 | 6.1107E-07 | 1.03422E-10 | — | — | — | 2.82272E-06 | 1.86809E-05 | 1.50902E-05 | 6.38978E-07 | 1.08146E-10 | — | — | — | 2.95163E-06 | 5.64898E-05 |
| Thallium | Tl | — | — | — | 3.30453E-08 | 7.82083E-06 | 6.41876E-06 | 1.45976E-07 | 5.87232E-10 | — | — | — | 1.2555E-06 | 8.02731E-06 | 6.58823E-06 | 1.4983E-07 | 6.02736E-10 | — | — | — | 1.28865E-06 | 0.000121051 |
| Uranium | U | — | — | — | 1.00012E-07 | 9.63705E-06 | 8.04891E-06 | 1.37747E-08 | 1.67705E-12 | — | — | — | 1.57436E-06 | 1.0251E-05 | 8.56165E-06 | 1.46521E-08 | 1.78388E-12 | — | — | — | 1.67465E-06 | 0.001812126 |
| Zinc | Zn | — | — | — | 4.51375E-05 | 0.015687473 | 0.002064156 | 0.011101812 | 1.86672E-09 | — | — | 0.001940052 | 0.000581452 | 0.013101183 | 0.002224773 | 0.010249713 | 5.75794E-10 | — | — | — | 0.000626697 | 0.020565154 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001966252 | 0.006550922 | 1.17785E-06 | — | — | 0.090042452 | 0.014839635 | 0.093624237 | 0.000217354 | 0.001699909 | 1.04727E-06 | — | — | 0.090065521 | 0.001640405 | 0.11097228 | 0.001748422 | 0.005947136 | 1.16198E-06 | — | — |
| Antimony | Sb | 1.7658E-05 | 2.94827E-06 | 2.47468E-09 | — | — | 0.000317315 | 7.06318E-06 | 0.004280942 | 0.002751186 | 0.000111955 | 1.06919E-08 | — | — | 0.000317315 | 0.001100475 | 0.004787148 | 0.002766469 | 0.000115964 | 1.44071E-08 | — | — |
| Arsenic | As | 1.57304E-05 | 8.58346E-06 | 6.23637E-09 | — | — | 0.000397974 | 2.43882E-05 | 0.013097863 | 0.004774161 | 0.000523873 | 5.52629E-08 | — | — | 0.000397974 | 0.007401799 | 0.016027362 | 0.004787327 | 0.000574487 | 9.88259E-08 | — | — |
| Cadmium | Cd | 7.63225E-05 | 7.04934E-07 | 3.46417E-11 | — | — | 1.82299E-05 | 1.7848E-06 | 0.036286443 | 0.035153806 | 0.000301347 | 8.27479E-09 | — | — | 9.21048E-06 | 0.000822071 | 0.03635786 | 0.035220264 | 0.000301925 | 8.29301E-09 | — | — |
| Cobalt | Co | 3.329E-05 | 5.13895E-07 | 3.89345E-08 | — | — | 0.000218234 | 0.000109148 | 0.032929034 | 0.007621865 | 6.557E-05 | 1.32619E-06 | — | — | 0.000250551 | 0.024989722 | 0.033024864 | 0.00764777 | 6.5776E-05 | 1.32825E-06 | — | — |
| Copper | Cu | 9.78757E-05 | 5.99409E-05 | 4.39242E-08 | — | — | 0.000522559 | 5.19235E-05 | 0.19813305 | 0.102147225 | 0.041291842 | 4.25974E-06 | — | — | 0.000500213 | 0.054189509 | 0.198291407 | 0.102229081 | 0.041324916 | 4.26312E-06 | — | — |
| Cyanide | CN- | — | 5.73438E-06 | 2.51508E-08 | — | — | 0.000470807 | — | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 | — | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — |
| Lead | Pb | 0.001994145 | 1.26736E-05 | 2.36291E-09 | — | — | 0.000470941 | 0.000238677 | 0.19345052 | 0.171533308 | 0.001016565 | 1.11356E-07 | — | — | 0.000369918 | 0.020530617 | 0.195444551 | 0.173284027 | 0.001026976 | 1.12538E-07 | — | — |
| Mercury | Hg | 3.25384E-06 | 2.76051E-07 | 5.05806E-10 | — | — | 5.61103E-06 | 2.48812E-07 | 0.001294003 | 0.001129056 | 7.21516E-05 | 2.741773E-08 | — | — | 6.4326E-06 | 8.63357E-05 | 0.001296881 | 0.001131579 | 7.23126E-05 | 2.74775E-08 | — | — |
| Methyl-Mercury | Me-Hg | — | 5.25423E-10 | 3.34001E-11 | — | — | 5.61103E-06 | — | 6.43324E-06 | — | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 | — | 6.43387E-06 | — | 6.02415E-10 | 3.82943E-11 | — | — |
| Silver | Ag | 1.50902E-05 | 1.09393E-06 | 9.63327E-10 | — | — | 3.73531E-05 | 2.95163E-06 | 0.001672581 | 0.001320548 | 5.6372E-05 | 1.0319E-08 | — | — | 3.73531E-05 | 0.000258298 | 0.001689632 | 0.001334321 | 5.69552E-05 | 1.04177E-08 | — | — |
| Thallium | Tl | 6.58823E-06 | 9.43301E-07 | 3.48517E-08 | — | — | 0.000112196 | 1.28865E-06 | 0.00353931 | 0.002812044 | 6.47451E-05 | 2.91514E-07 | — | — | 0.000112196 | 0.000550033 | 0.003546924 | 0.002818294 | 6.48872E-05 | 2.92086E-07 | — | — |
| Uranium | U | 8.56165E-06 | 9.58099E-07 | 1.25413E-09 | — | — | 0.00180093 | 1.67465E-06 | 0.008535863 | 0.005624261 | 1.05686E-05 | 2.4242E-09 | — | — | 0.00180093 | 0.0011001 | 0.008544888 | 0.005631799 | 1.05815E-05 | 2.42577E-09 | — | — |
| Zinc | Zn | 0.002224773 | 0.013614034 | 3.39158E-09 | — | — | 0.004099647 | 0.000626697 | 3.099880222 | 0.525815053 | 2.42403942 | 1.37397E-07 | — | — | 0.001908695 | 0.148116916 | 3.111149048 | 0.527718971 | 2.432836656 | 1.37912E-07 | — | — |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.090079926 | 0.013195634 | 0.113423789 | 0.001966252 | 0.006551203 | 1.17811E-06 | — | — | 0.090065521 | 0.014839635 | 0.113400438 | 0.001966252 | 0.006550922 | 1.17785E-06 | — | — | 0.090042452 | 0.014839635 | 0.091163541 | — | 0.001096989 |
| Antimony | Sb | 0.000798113 | 0.001106587 | 0.004304659 | 0.002767658 | 0.000112611 | 1.07415E-08 | — | — | 0.000317315 | 0.001107063 | 0.004304659 | 0.002767658 | 0.000112611 | 1.07415E-08 | — | — | 0.000317315 | 0.001107063 | 0.004279233 | 0.00275 | 0.000111907 |
| Arsenic | As | 0.003243235 | 0.007422213 | 0.013136281 | 0.004788611 | 0.000525438 | 5.54118E-08 | — | — | 0.000397974 | 0.007424203 | 0.013136281 | 0.004788611 | 0.000525438 | 5.54118E-08 | — | — | 0.000397974 | 0.007424203 | 0.013094459 | 0.00477288 | 0.000523735 |
| Cadmium | Cd | 1.20388E-05 | 0.000823625 | 0.036360121 | 0.035225203 | 0.000301959 | 8.29158E-09 | — | — | 9.21048E-06 | 0.00082374 | 0.036369166 | 0.035225203 | 0.000301984 | 8.29984E-09 | — | — | 1.82299E-05 | 0.00082374 | 0.03628136 | 0.03514888 | 0.000301305 |
| Cobalt | Co | 0.000235334 | 0.025074656 | 0.033055949 | 0.007651467 | 6.58237E-05 | 1.33119E-06 | — | — | 0.000250551 | 0.025086776 | 0.033031271 | 0.007651467 | 6.57978E-05 | 1.32743E-06 | — | — | 0.000225903 | 0.025086776 | 0.032913221 | 0.007618177 | 6.55384E-05 |
| Copper | Cu | 0.000500213 | 0.054232934 | 0.198306925 | 0.102237102 | 0.041328157 | 4.26345E-06 | — | — | 0.000500213 | 0.054237189 | 0.198330145 | 0.102237102 | 0.041329029 | 4.26516E-06 | — | — | 0.000522559 | 0.054237189 | 0.198117576 | 0.102139226 | 0.04128861 |
| Cyanide | CN- | 0.000470823 | — | 0.000476583 | — | 5.73458E-06 | 2.51517E-08 | — | — | 0.000470823 | — | 0.000476567 | — | 5.73438E-06 | 2.51508E-08 | — | — | 0.000470807 | — | 0.000476583 | — | 5.73458E-06 |
| Lead | Pb | 0.000393276 | 0.020740159 | 0.195558306 | 0.173405878 | 0.001027655 | 1.12563E-07 | — | — | 0.000369918 | 0.020754743 | 0.195659515 | 0.173405878 | 0.00102784 | 1.12794E-07 | — | — | 0.000470941 | 0.020754743 | 0.193313674 | 0.171411733 | 0.001015845 |
| Mercury | Hg | 6.43323E-06 | 8.65287E-05 | 0.001297297 | 0.001131944 | 7.2336E-05 | 2.74862E-08 | — | — | 6.4326E-06 | 8.65566E-05 | 0.001296466 | 0.001131944 | 7.2326E-05 | 2.74235E-08 | — | — | 5.61103E-06 | 8.65566E-05 | 0.001293587 | 0.001128691 | 7.21283E-05 |
| Methyl-Mercury | Me-Hg | 6.43323E-06 | — | 6.43324E-06 | — | 6.02356E-10 | 3.82906E-11 | — | — | 6.4326E-06 | — | 5.61159E-06 | — | 5.25423E-10 | 3.34001E-11 | — | — | 5.61103E-06 | — | 6.43324E-06 | — | 6.02356E-10 |
| Silver | Ag | 3.73531E-05 | 0.000260992 | 0.001690448 | 0.00133498 | 5.69832E-05 | 1.04225E-08 | — | — | 3.73531E-05 | 0.000261121 | 0.001690448 | 0.00133498 | 5.69832E-05 | 1.04225E-08 | — | — | 3.73531E-05 | 0.000261121 | 0.001671767 | 0.00131989 | 5.63442E-05 |
| Thallium | Tl | 0.000112196 | 0.000551256 | 0.003547131 | 0.002818463 | 6.48911E-05 | 2.92101E-07 | — | — | 0.000112196 | 0.000551289 | 0.003547131 | 0.002818463 | 6.48911E-05 | 2.92101E-07 | — | — | 0.000112196 | 0.000551289 | 0.003539104 | 0.002811875 | 6.47412E-05 |
| Uranium | U | 0.00180093 | 0.001101574 | 0.008545502 | 0.005632312 | 1.05824E-05 | 2.42588E-09 | — | — | 0.00180093 | 0.001101675 | 0.008545502 | 0.005632312 | 1.05824E-05 | 2.42588E-09 | — | — | 0.00180093 | 0.001101675 | 0.008535251 | 0.00562375 | 1.05678E-05 |
| Zinc | Zn | 0.001940052 | 0.148653231 | 3.112037799 | 0.527879588 | 2.433550903 | 1.37932E-07 | — | — | 0.001908695 | 0.148698476 | 3.116026729 | 0.527879588 | 2.435348879 | 1.39436E-07 | — | — | 0.004099647 | 0.148698476 | 3.098936616 | 0.525654815 | 2.42330119 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 1.031E-06 | — | — | 0.090065521 | — | 0.001857759 | 0.000217354 | — | — | — | — | — | 0.001640405 | 0.014944056 | 0.001748422 | — | — | — | — | — | 0.013195634 |
| Antimony | Sb | 1.06884E-08 | — | — | 0.000317315 | 0.0011 | 1.66108E-06 | 1.18649E-06 | — | — | — | — | — | 4.74596E-07 | 0.00082117 | 1.64687E-05 | — | — | — | — | 0.000798113 | 6.58749E-06 |
| Arsenic | As | 5.52497E-08 | — | — | 0.000397974 | 0.007399815 | 3.26502E-06 | 1.28021E-06 | — | — | — | — | — | 1.98482E-06 | 0.003280081 | 1.44471E-05 | — | — | — | — | 0.003243235 | 2.23986E-05 |
| Cadmium | Cd | 8.27363E-09 | — | — | 9.21048E-06 | 0.000821956 | 5.04148E-06 | 4.92628E-06 | — | — | — | — | — | 1.15201E-07 | 8.50916E-05 | 7.13835E-05 | — | — | — | — | 1.20388E-05 | 1.6693E-06 |
| Cobalt | Co | 1.32557E-06 | — | — | 0.000250551 | 0.024977629 | 1.57811E-05 | 3.68829E-06 | — | — | — | — | — | 1.20928E-05 | 0.00012662 | 2.95932E-05 | — | — | — | — | — | 9.7027E-05 |
| Copper | Cu | 4.25941E-06 | — | — | 0.000500213 | 0.054185266 | 1.22419E-05 | 7.99861E-06 | — | — | — | — | — | 4.24329E-06 | 0.000583277 | 8.98541E-05 | — | — | — | — | 0.000445755 | 4.76679E-05 |
| Cyanide | CN- | 2.51517E-08 | — | — | 0.000470823 | — | — | — | — | — | — | — | — | — | 0.000420215 | — | — | — | — | — | 0.000420215 | — |
| Lead | Pb | 1.11278E-07 | — | — | 0.000369918 | 0.020516066 | 0.000136126 | 0.000121575 | — | — | — | — | — | 1.45511E-05 | 0.002489663 | 0.001872294 | — | — | — | — | 0.000393276 | 0.000224093 |
| Mercury | Hg | 2.74086E-08 | — | — | 6.4326E-06 | 8.63078E-05 | 3.92838E-07 | 3.64933E-07 | — | — | — | — | — | 2.79054E-08 | 3.10889E-06 | 2.88805E-06 | — | — | — | — | — | 2.20841E-07 |
| Methyl-Mercury | Me-Hg | 3.82906E-11 | — | — | 6.4326E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 1.03143E-08 | — | — | 3.73531E-05 | 0.000258169 | 7.86183E-07 | 6.57564E-07 | — | — | — | — | — | 1.28619E-07 | 1.72539E-05 | 1.44311E-05 | — | — | — | — | — | 2.82272E-06 |
| Thallium | Tl | 2.91499E-07 | — | — | 0.000112196 | 0.00055 | 2.01989E-07 | 1.68944E-07 | — | — | — | — | — | 3.30453E-08 | 7.67426E-06 | 6.41876E-06 | — | — | — | — | — | 1.2555E-06 |
| Uranium | U | 2.4241E-09 | — | — | 0.00180093 | 0.0011 | 6.11322E-07 | 5.1131E-07 | — | — | — | — | — | 1.00012E-07 | 9.62327E-06 | 8.04891E-06 | — | — | — | — | — | 1.57436E-06 |
| Zinc | Zn | 1.37356E-07 | — | — | 0.001908695 | 0.148071779 | 0.000205376 | 0.000160238 | — | — | — | — | — | 4.51375E-05 | 0.00458566 | 0.002064156 | — | — | — | — | 0.001940052 | 0.000581452 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.016805887 | 0.001966252 | — | — | — | — | — | 0.014839635 | 0.106848339 | 0.001966252 | — | — | — | — | 0.090042452 | 0.014839635 | 0.09192328 | 0.000217354 | — | — | — |
| Antimony | Sb | 2.47211E-05 | 1.7658E-05 | — | — | — | — | — | 7.06318E-06 | 0.000342036 | 1.7658E-05 | — | — | — | — | 0.000317315 | 7.06318E-06 | 0.004168976 | 0.002751186 | — | — | — |
| Arsenic | As | 4.01185E-05 | 1.57304E-05 | — | — | — | — | — | 2.43882E-05 | 0.000438093 | 1.57304E-05 | — | — | — | — | 0.000397974 | 2.43882E-05 | 0.012573934 | 0.004774161 | — | — | — |
| Cadmium | Cd | 7.81073E-05 | 7.63225E-05 | — | — | — | — | — | 1.7848E-06 | 9.63372E-05 | 7.63225E-05 | — | — | — | — | 1.82299E-05 | 1.7848E-06 | 0.035985088 | 0.035153806 | — | — | — |
| Cobalt | Co | 0.000142438 | 3.329E-05 | — | — | — | — | — | 0.000109148 | 0.000360672 | 3.329E-05 | — | — | — | — | 0.000218234 | 0.000109148 | 0.032862138 | 0.007621865 | — | — | — |
| Copper | Cu | 0.000149799 | 9.78757E-05 | — | — | — | — | — | 5.19235E-05 | 0.000672359 | 9.78757E-05 | — | — | — | — | 0.000522559 | 5.19235E-05 | 0.156836948 | 0.102147225 | — | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000470807 | — | — | — | — | — | 0.000470807 | — | 0.000470823 | — | — | — | — |
| Lead | Pb | 0.002232821 | 0.001994145 | — | — | — | — | — | 0.000238677 | 0.002703762 | 0.001994145 | — | — | — | — | 0.000470941 | 0.000238677 | 0.192433843 | 0.171533308 | — | — | — |
| Mercury | Hg | 3.50265E-06 | 3.25384E-06 | — | — | — | — | — | 2.48812E-07 | 9.11369E-06 | 3.25384E-06 | — | — | — | — | 5.61103E-06 | 2.48812E-07 | 0.001221824 | 0.001129056 | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 5.61103E-06 | — | — | — | — | — | 5.61103E-06 | — | 6.4326E-06 | — | — | — | — |
| Silver | Ag | 1.80418E-05 | 1.50902E-05 | — | — | — | — | — | 2.95163E-06 | 5.53949E-05 | 1.50902E-05 | — | — | — | — | 3.73531E-05 | 2.95163E-06 | 0.001616199 | 0.001320548 | — | — | — |
| Thallium | Tl | 7.87688E-06 | 6.58823E-06 | — | — | — | — | — | 1.28865E-06 | 0.000120073 | 6.58823E-06 | — | — | — | — | 0.000112196 | 1.28865E-06 | 0.003474273 | 0.002812044 | — | — | — |
| Uranium | U | 1.02363E-05 | 8.56165E-06 | — | — | — | — | — | 1.67465E-06 | 0.001811167 | 8.56165E-06 | — | — | — | — | 0.00180093 | 1.67465E-06 | 0.008525292 | 0.005624261 | — | — | — |
| Zinc | Zn | 0.00285147 | 0.002224773 | — | — | — | — | — | 0.000626697 | 0.006951117 | 0.002224773 | — | — | — | — | 0.004099647 | 0.000626697 | 0.675840664 | 0.525815053 | — | — | — |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) | Total Dose to Short tailed weasel (mg/kg/d) | Dose to Short tailed weasel from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.090065521 | 0.001640405 | 0.105023982 | 0.001748422 | — | — | — | — | 0.090079926 | 0.013195634 | 0.106871408 | 0.001966252 | — | — | — | — | 0.090065521 | 0.014839635 | 0.106848339 | 0.001966252 |
| Antimony | Sb | — | 0.000317315 | 0.001100475 | 0.00467117 | 0.002766469 | — | — | — | — | 0.000798113 | 0.001106587 | 0.004192036 | 0.002767658 | — | — | — | — | 0.000317315 | 0.001107063 | 0.004192036 | 0.002767658 |
| Arsenic | As | — | 0.000397974 | 0.007401799 | 0.015452776 | 0.004787327 | — | — | — | — | 0.003243235 | 0.007422213 | 0.012610788 | 0.004788611 | — | — | — | — | 0.000397974 | 0.007424203 | 0.012610788 | 0.004788611 |
| Cadmium | Cd | — | 9.21048E-06 | 0.000822071 | 0.036055927 | 0.035220264 | — | — | — | — | 1.20388E-05 | 0.000823625 | 0.036058154 | 0.035225203 | — | — | — | — | 9.21048E-06 | 0.00082374 | 0.036067173 | 0.035225203 |
| Cobalt | Co | — | 0.000250551 | 0.024989722 | 0.03295776 | 0.00764777 | — | — | — | — | 0.000235334 | 0.025074656 | 0.032988794 | 0.007651467 | — | — | — | — | 0.000250551 | 0.025086776 | 0.032964146 | 0.007651467 |
| Copper | Cu | — | 0.000500213 | 0.054189509 | 0.156962228 | 0.102229081 | — | — | — | — | 0.000500213 | 0.054232934 | 0.156974505 | 0.102237102 | — | — | — | — | 0.000500213 | 0.054237189 | 0.156996851 | 0.102237102 |
| Cyanide | CN- | — | 0.000470823 | — | 0.000470823 | — | — | — | — | — | 0.000470823 | — | 0.000470823 | — | — | — | — | — | 0.000470823 | — | 0.000470807 | — |
| Lead | Pb | — | 0.000369918 | 0.020530617 | 0.194417463 | 0.173284027 | — | — | — | — | 0.000393276 | 0.020740159 | 0.194530539 | 0.173405878 | — | — | — | — | 0.000369918 | 0.020754743 | 0.194631562 | 0.173405878 |
| Mercury | Hg | — | 6.4326E-06 | 8.63357E-05 | 0.001224541 | 0.001131579 | — | — | — | — | 6.43323E-06 | 8.65287E-05 | 0.001224934 | 0.001131944 | — | — | — | — | 6.4326E-06 | 8.65566E-05 | 0.001224112 | 0.001131944 |
| Methyl-Mercury | Me-Hg | — | 6.4326E-06 | — | 6.43323E-06 | — | — | — | — | — | 6.43323E-06 | — | 6.4326E-06 | — | — | — | — | — | 6.4326E-06 | — | 5.61103E-06 | — |
| Silver | Ag | — | 3.73531E-05 | 0.000258298 | 0.001632666 | 0.001334321 | — | — | — | — | 3.73531E-05 | 0.000260992 | 0.001633454 | 0.00133498 | — | — | — | — | 3.73531E-05 | 0.000261121 | 0.001633454 | 0.00133498 |
| Thallium | Tl | — | 0.000112196 | 0.000550033 | 0.003481745 | 0.002818294 | — | — | — | — | 0.000112196 | 0.000551256 | 0.003481948 | 0.002818463 | — | — | — | — | 0.000112196 | 0.000551289 | 0.003481948 | 0.002818463 |
| Uranium | U | — | 0.00180093 | 0.0011001 | 0.008534304 | 0.005631799 | — | — | — | — | 0.00180093 | 0.001101574 | 0.008534917 | 0.005632312 | — | — | — | — | 0.00180093 | 0.001101675 | 0.008534917 | 0.005632312 |
| Zinc | Zn | — | 0.001908695 | 0.148116916 | 0.678312253 | 0.527718971 | — | — | — | — | 0.001940052 | 0.148653231 | 0.678486759 | 0.527879588 | — | — | — | — | 0.001908695 | 0.148698476 | 0.680677711 | 0.527879588 |

## Table VI-7A Estimated Ecological Exposure Dose: Short Tailed Weasel

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Short tailed weasel from the consumption of Meat_3 (mg/kg/d) | Dose to Short tailed weasel from the consumption of Meat_4 (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of — (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Water (dry) (mg/kg/d) | Dose to Short tailed weasel from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | — | 0.090042452 | 0.014839635 |
| Antimony | Sb | — | — | — | — | 0.000317315 | 0.001107063 |
| Arsenic | As | — | — | — | — | 0.000397974 | 0.007424203 |
| Cadmium | Cd | — | — | — | — | 1.82299E-05 | 0.00082374 |
| Cobalt | Co | — | — | — | — | 0.000225903 | 0.025086776 |
| Copper | Cu | — | — | — | — | 0.000522559 | 0.054237189 |
| Cyanide | CN- | — | — | — | — | 0.000470807 | — |
| Lead | Pb | — | — | — | — | 0.000470941 | 0.020754743 |
| Mercury | Hg | — | — | — | — | 5.61103E-06 | 8.65566E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 5.61103E-06 | — |
| Silver | Ag | — | — | — | — | 3.73531E-05 | 0.000261121 |
| Thallium | Tl | — | — | — | — | 0.000112196 | 0.000551289 |
| Uranium | U | — | — | — | — | 0.00180093 | 0.001101675 |
| Zinc | Zn | — | — | — | — | 0.004099647 | 0.148698476 |

## Table VI-7B Estimated Ecological Risk: Short Tailed Weasel

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.047234995 | 0.0047235 | 28.13673916 | 2.813673916 | 28.15030672 | 2.815030672 | 0.013404145 | 0.001340415 | 28.13673916 | 2.813673916 | 0.232565999 | 0.0232566 | 28.18397416 | 2.818397416 | 28.15030672 | 2.815030672 | 28.18397416 | 2.818397416 | 0.232565999 | 0.0232566 | 0.047234995 |
| Antimony | Sb | 0.034233866 | 0.003423387 | 0.297436901 | 0.02974369 | 0.299531627 | 0.029953163 | 0.00208 | 0.000208 | 0.297436901 | 0.02974369 | 0.005137632 | 0.000513763 | 0.299993396 | 0.02999934 | 0.299531627 | 0.029953163 | 0.299993396 | 0.02999934 | 0.036815003 | 0.0036815 | 0.034233866 |
| Arsenic | As | 0.10072661 | 0.010072661 | 0.564924302 | 0.05649243 | 0.583235754 | 0.058323575 | 0.018 | 0.0018 | 0.564924302 | 0.05649243 | 0.007935818 | 0.000793582 | 0.568038614 | 0.056803861 | 0.583235754 | 0.058323575 | 0.568038614 | 0.056803861 | 0.105548117 | 0.010554812 | 0.10072661 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.004490207 | 0.003740139 | 0.047021475 | 0.039166751 | 0.047092501 | 0.039225913 | 7.09413E-05 | 5.90909E-05 | 0.047021475 | 0.039166751 | 0.000400034 | 0.00033321 | 0.047055697 | 0.039195257 | 0.047092501 | 0.039225913 | 0.047055697 | 0.039195257 | 0.004856019 | 0.004044843 | 0.004490207 |
| Copper | Cu | 0.016933126 | 0.013085705 | 0.026959462 | 0.020833931 | 0.027167283 | 0.020994532 | 0.0002 | 0.000154557 | 0.026959462 | 0.020833931 | 0.000371402 | 0.000287015 | 0.027003888 | 0.020868262 | 0.027167283 | 0.020994532 | 0.027003888 | 0.020868262 | 0.017260103 | 0.013338389 | 0.016933126 |
| Cyanide | CN- | 6.907E-06 | 6.907E-06 | — | — | 0.001907106 | 0.001907106 | 0.001884058 | 0.001884058 | — | — | 9.53553E-06 | 9.53553E-06 | 6.907E-06 | 6.907E-06 | 0.001907106 | 0.001907106 | 6.907E-06 | 6.907E-06 | 9.53553E-06 | 9.53553E-06 | 6.907E-06 |
| Lead | Pb | 0.024164209 | 0.002416421 | 0.374317507 | 0.037431751 | 0.375652454 | 0.037565245 | 0.0013325 | 0.00013325 | 0.374317507 | 0.037431751 | 0.005451076 | 0.000545108 | 0.374363832 | 0.037436383 | 0.375652454 | 0.037565245 | 0.374363832 | 0.037436383 | 0.029568961 | 0.002956896 | 0.024164209 |
| Mercury | Hg | 0.001293587 | 0.001293587 | 0.009013882 | 0.009013882 | 0.00925075 | 0.00925075 | 0.000234 | 0.000234 | 0.009013882 | 0.009013882 | 9.95612E-05 | 9.95612E-05 | 0.009020394 | 0.009020394 | 0.00925075 | 0.00925075 | 0.009020394 | 0.009020394 | 0.001386636 | 0.001386636 | 0.001293587 |
| Methyl-Mercury | Me-Hg | 0.000201039 | 4.02077E-05 | — | — | 0.007313228 | 0.001462646 | 0.0073125 | 0.0014625 | — | — | 0.000812581 | 0.000162516 | 0.000201039 | 4.02077E-05 | 0.007313228 | 0.001462646 | 0.000201039 | 4.02077E-05 | 0.000812581 | 0.000162516 | 0.000201039 |
| Silver | Ag | 0.000277702 | 2.77702E-05 | 0.002948329 | 0.000294833 | 0.002949422 | 0.000294942 | 1.07973E-06 | 1.07973E-07 | 0.002948329 | 0.000294833 | 6.09107E-05 | 6.09107E-06 | 0.002954609 | 0.000295461 | 0.002949422 | 0.000294942 | 0.002954609 | 0.000295461 | 0.000332332 | 3.32332E-05 | 0.000277702 |
| Thallium | Tl | 0.478257252 | 0.047825725 | 0.552814436 | 0.055281444 | 11.91439857 | 1.191439857 | 11.27837838 | 1.127837838 | 0.552814436 | 0.055281444 | 0.025619081 | 0.002561908 | 0.568087903 | 0.05680879 | 11.91439857 | 1.191439857 | 0.568087903 | 0.05680879 | 0.488602867 | 0.048860287 | 0.478257252 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.019368354 | 0.009684177 | 0.127597964 | 0.063798982 | 0.127657135 | 0.063828568 | 0.0000325 | 0.00001625 | 0.127597964 | 0.063798982 | 0.001622077 | 0.000811038 | 0.127619683 | 0.063809842 | 0.127657135 | 0.063828568 | 0.127619683 | 0.063809842 | 0.020968711 | 0.010484356 | 0.019368354 |

## Table VI-7B Estimated Ecological Risk: Short Tailed Weasel

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.0047235 | 0.001274972 | 0.000127497 | 0.010256041 | 0.001025604 | 0.011533807 | 0.001153381 | 0.058756704 | 0.00587567 | 0.048509967 | 0.004850997 | 0.057498591 | 0.005749859 | 0.058768803 | 0.00587688 | 0.058756704 | 0.00587567 | 0.047234995 | 0.0047235 | 0.000962569 | 9.62569E-05 |
| Antimony | Sb | 0.003423387 | 1.36672E-05 | 1.36672E-06 | 0.006619815 | 0.000661982 | 0.000203403 | 2.03403E-05 | 0.002759898 | 0.00027599 | 0.034247534 | 0.003424753 | 0.038297187 | 0.003829719 | 0.034437269 | 0.003443727 | 0.034437269 | 0.003443727 | 0.034233866 | 0.003423387 | 1.32887E-05 | 1.32887E-06 |
| Arsenic | As | 0.010072661 | 2.61821E-05 | 2.61821E-06 | 0.025675098 | 0.00256751 | 0.000321709 | 3.21709E-05 | 0.00343602 | 0.000343602 | 0.100752792 | 0.010075279 | 0.123287397 | 0.01232874 | 0.101048318 | 0.010104832 | 0.101048318 | 0.010104832 | 0.10072661 | 0.010072661 | 2.51156E-05 | 2.51156E-06 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.003740139 | 2.15734E-06 | 1.79696E-06 | 1.73095E-05 | 1.4418E-05 | 1.94718E-05 | 1.62191E-05 | 4.92803E-05 | 4.10483E-05 | 0.004492365 | 0.003741936 | 0.004505439 | 0.003752825 | 0.004509679 | 0.003756358 | 0.004506313 | 0.003753554 | 0.004490207 | 0.003740139 | 2.15294E-06 | 1.7933E-06 |
| Copper | Cu | 0.013085705 | 1.32257E-06 | 1.02206E-06 | 5.44459E-05 | 4.20751E-05 | 1.61837E-05 | 1.25066E-05 | 6.25935E-05 | 4.83714E-05 | 0.016934449 | 0.013086727 | 0.016947983 | 0.013097187 | 0.01694931 | 0.013098212 | 0.016951294 | 0.013099745 | 0.016933126 | 0.013085705 | 1.04632E-06 | 8.0858E-07 |
| Cyanide | CN- | 6.907E-06 | — | — | 6.16458E-06 | 6.16458E-06 | — | — | 6.90677E-06 | 6.90677E-06 | 6.907E-06 | 6.907E-06 | 6.907E-06 | 6.907E-06 | 6.907E-06 | 6.907E-06 | 6.90677E-06 | 6.90677E-06 | 6.907E-06 | 6.907E-06 | — | — |
| Lead | Pb | 0.002416421 | 1.71058E-05 | 1.71058E-06 | 0.000312684 | 3.12684E-05 | 0.000280579 | 2.80579E-05 | 0.000339555 | 3.39555E-05 | 0.024181315 | 0.002418131 | 0.024430569 | 0.002443057 | 0.024444788 | 0.002444479 | 0.024457439 | 0.002445744 | 0.024164209 | 0.002416421 | 1.70157E-05 | 1.70157E-06 |
| Mercury | Hg | 0.001293587 | 4.16143E-07 | 4.16143E-07 | 3.29332E-06 | 3.29332E-06 | 3.71044E-06 | 3.71044E-06 | 9.39024E-06 | 9.39024E-06 | 0.001294003 | 0.001294003 | 0.001296881 | 0.001296881 | 0.001297297 | 0.001297297 | 0.001296466 | 0.001296466 | 0.001293587 | 0.001293587 | 3.92838E-07 | 3.92838E-07 |
| Methyl-Mercury | Me-Hg | 4.02077E-05 | — | — | — | — | — | — | 0.000175362 | 3.50724E-05 | 0.000201039 | 4.02077E-05 | 0.000201058 | 4.02117E-05 | 0.000201039 | 4.02077E-05 | 0.000175362 | 3.50724E-05 | 0.000201039 | 4.02077E-05 | — | — |
| Silver | Ag | 2.77702E-05 | 1.35221E-07 | 1.35221E-08 | 2.96761E-06 | 2.96761E-07 | 3.10315E-06 | 3.10315E-07 | 9.38369E-06 | 9.38369E-07 | 0.000277837 | 2.77837E-05 | 0.00028067 | 2.8067E-05 | 0.000280805 | 2.80805E-05 | 0.000280805 | 2.80805E-05 | 0.000277702 | 2.77702E-05 | 1.30595E-07 | 1.30595E-08 |
| Thallium | Tl | 0.047825725 | 2.78171E-05 | 2.78171E-06 | 0.001056868 | 0.000105687 | 0.001084771 | 0.000108477 | 0.016358238 | 0.001635824 | 0.47828507 | 0.047828507 | 0.479314121 | 0.047931412 | 0.479342024 | 0.047934202 | 0.479342024 | 0.047934202 | 0.478257252 | 0.047825725 | 2.72958E-05 | 2.72958E-06 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.009684177 | 5.89753E-06 | 2.94877E-06 | 9.80467E-05 | 4.90234E-05 | 8.18824E-05 | 4.09412E-05 | 0.000128532 | 6.42661E-05 | 0.019374251 | 0.009687126 | 0.019444682 | 0.009722341 | 0.019450236 | 0.009725118 | 0.019475167 | 0.009737584 | 0.019368354 | 0.009684177 | 1.2836E-06 | 6.41799E-07 |

## Table VI-7B Estimated Ecological Risk: Short Tailed Weasel

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) | Risk to Short tailed weasel (NOAELm) | Risk to Short tailed weasel (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.007743034 | 0.000774303 | 0.008707713 | 0.000870771 | 0.055361834 | 0.005536183 | 0.047628643 | 0.004762864 | 0.054416571 | 0.005441657 | 0.055373787 | 0.005537379 |
| Antimony | Sb | 0.006569357 | 0.000656936 | 0.000197769 | 1.97769E-05 | 0.002736292 | 0.000273629 | 0.033351811 | 0.003335181 | 0.037369357 | 0.003736936 | 0.033536292 | 0.003353629 |
| Arsenic | As | 0.025231392 | 0.002523139 | 0.000308604 | 3.08604E-05 | 0.003369946 | 0.000336995 | 0.096722572 | 0.009672257 | 0.118867507 | 0.011886751 | 0.097006061 | 0.009700606 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 1.72742E-05 | 1.43887E-05 | 1.94321E-05 | 1.61861E-05 | 4.92049E-05 | 4.09854E-05 | 0.004483238 | 0.003734334 | 0.004496284 | 0.0037452 | 0.004500518 | 0.003748727 |
| Copper | Cu | 4.98527E-05 | 3.85256E-05 | 1.28033E-05 | 9.89426E-06 | 5.74665E-05 | 4.44094E-05 | 0.013404867 | 0.010359111 | 0.013415575 | 0.010367386 | 0.013416624 | 0.010368197 |
| Cyanide | CN- | 6.09008E-06 | 6.09008E-06 | — | — | 6.8233E-06 | 6.8233E-06 | 6.82352E-06 | 6.82352E-06 | 6.82352E-06 | 6.82352E-06 | 6.82352E-06 | 6.82352E-06 |
| Lead | Pb | 0.000311208 | 3.11208E-05 | 0.000279103 | 2.79103E-05 | 0.00033797 | 3.3797E-05 | 0.02405423 | 0.002405423 | 0.024302183 | 0.002430218 | 0.024316317 | 0.002431632 |
| Mercury | Hg | 3.10889E-06 | 3.10889E-06 | 3.50265E-06 | 3.50265E-06 | 9.11369E-06 | 9.11369E-06 | 0.001221824 | 0.001221824 | 0.001224541 | 0.001224541 | 0.001224934 | 0.001224934 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000175345 | 3.50689E-05 | 0.000201019 | 4.02037E-05 | 0.000201038 | 4.02077E-05 | 0.000201019 | 4.02037E-05 |
| Silver | Ag | 2.86609E-06 | 2.86609E-07 | 2.99698E-06 | 2.99698E-07 | 9.20181E-06 | 9.20181E-07 | 0.000268472 | 2.68472E-05 | 0.000271207 | 2.71207E-05 | 0.000271338 | 2.71338E-05 |
| Thallium | Tl | 0.001037063 | 0.000103706 | 0.001064443 | 0.000106444 | 0.016226055 | 0.001622606 | 0.469496341 | 0.046949634 | 0.470506107 | 0.047050611 | 0.470533488 | 0.047053349 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 2.86604E-05 | 1.43302E-05 | 1.78217E-05 | 8.91084E-06 | 4.34445E-05 | 2.17222E-05 | 0.004224004 | 0.002112002 | 0.004239452 | 0.002119726 | 0.004240542 | 0.002120271 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.049731016 | — | — | — | — | — | 0.049731016 | — | 603.1961076 | 543.0196566 | 32.5811794 | 7.849102309 | — | — | — | 19.74616933 | 603.2103921 | 543.0196566 | 32.5811794 | 7.849102309 | — |
| Antimony | Sb | 0.00873721 | 0.0033 | 0.000162 | 0.0045 | — | — | 0.00017521 | 0.0006 | 0.080393499 | 0.030985581 | 0.00152111 | 0.042253066 | — | — | — | 0.005633742 | 0.080537062 | 0.030985581 | 0.00152111 | 0.042253066 | — |
| Arsenic | As | 0.016728061 | 0.0039959 | 0.000665983 | 0.007810168 | — | — | 0.000219747 | 0.004036262 | 0.095540702 | 0.023125989 | 0.003854332 | 0.045200797 | — | — | — | 0.023359585 | 0.096832768 | 0.023125989 | 0.003854332 | 0.045200797 | — |
| Cadmium | Cd | 0.059779945 | 0.001541167 | 0.000269004 | 0.057516349 | — | — | 5.0857E-06 | 0.000448339 | 0.176999504 | 0.004563554 | 0.000796548 | 0.170311824 | — | — | — | 0.001327579 | 0.177143067 | 0.004563554 | 0.000796548 | 0.170311824 | — |
| Cobalt | Co | 0.034539353 | 0.007493289 | 0.00081745 | 0.012466108 | — | — | 0.000138346 | 0.013624161 | 0.36301427 | 0.079072415 | 0.008626082 | 0.131547745 | — | — | — | 0.143768028 | 0.363301395 | 0.079072415 | 0.008626082 | 0.131547745 | — |
| Copper | Cu | 0.584147071 | 0.325111596 | 0.062066759 | 0.167136916 | — | — | 0.0002762 | 0.0295556 | 0.932034073 | 0.518976199 | 0.099077274 | 0.266800946 | — | — | — | 0.047179654 | 0.933326139 | 0.518976199 | 0.099077274 | 0.266800946 | — |
| Cyanide | CN- | 0.000259972 | — | — | — | — | — | 0.000259972 | — | — | — | — | — | — | — | — | — | 0.071781432 | — | — | — | — |
| Lead | Pb | 0.305919754 | 0.013848345 | 0.000184645 | 0.280491927 | — | — | 0.000204256 | 0.011190582 | 4.744805165 | 0.214930868 | 0.002865745 | 4.353327042 | — | — | — | 0.17368151 | 4.750691243 | 0.214930868 | 0.002865745 | 4.353327042 | — |
| Mercury | Hg | 0.003269872 | 0.001294617 | 7.7677E-05 | 0.001846948 | — | — | 3.55185E-06 | 4.7077E-05 | 0.022875291 | 0.009066703 | 0.000544002 | 0.012934888 | — | — | — | 0.000329698 | 0.023004498 | 0.009066703 | 0.000544002 | 0.012934888 | — |
| Methyl-Mercury | Me-Hg | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 | — | — | — | — | — | — | — | — | — | 0.000129207 | — | — | — | — |
| Silver | Ag | 0.002554314 | 6.97057E-07 | 0.000232352 | 0.00215982 | — | — | 2.0625E-05 | 0.00014082 | 0.027522308 | 7.57181E-06 | 0.002523937 | 0.023461141 | — | — | — | 0.001529659 | 0.027525898 | 7.57181E-06 | 0.002523937 | 0.023461141 | — |
| Thallium | Tl | 0.005054701 | 0.000033 | 0.0000585 | 0.00460125 | — | — | 6.19507E-05 | 0.0003 | 0.005961471 | 3.94028E-05 | 6.98505E-05 | 0.00549401 | — | — | — | 0.000358208 | 0.05204515 | 3.94028E-05 | 6.98505E-05 | 0.00549401 | — |
| Uranium | U | 0.011138611 | 0.00033 | 0.0000117 | 0.0092025 | — | — | 0.000994411 | 0.0006 | 0.019015945 | 0.000618606 | 2.19324E-05 | 0.017250668 | — | — | — | 0.001124738 | 0.019374852 | 0.000618606 | 2.19324E-05 | 0.017250668 | — |
| Zinc | Zn | 1.630516535 | 0.555269171 | 0.133264601 | 0.860162425 | — | — | 0.001053914 | 0.080766425 | 10.74688777 | 3.662198434 | 0.878927624 | 5.673078302 | — | — | — | 0.532683409 | 10.74975903 | 3.662198434 | 0.878927624 | 5.673078302 | — |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.014284505 | 19.74616933 | 603.1961076 | 543.0196566 | 32.5811794 | 7.849102309 | — | — | — | 19.74616933 | 4.88151799 | 4.389678223 | 0.263380693 | 0.063450803 | — | — | 0.005383607 | 0.159624663 | 603.2458387 | 543.0196566 |
| Antimony | Sb | — | 0.000143563 | 0.005633742 | 0.080393499 | 0.030985581 | 0.00152111 | 0.042253066 | — | — | — | 0.005633742 | 0.001140473 | 0.000407074 | 1.99836E-05 | 0.0005551 | — | — | 8.4302E-05 | 7.40134E-05 | 0.08056871 | 0.030985581 |
| Arsenic | As | — | 0.001292066 | 0.023359585 | 0.095540702 | 0.023125989 | 0.003854332 | 0.045200797 | — | — | — | 0.023359585 | 0.001174387 | 0.000255199 | 4.25332E-05 | 0.000498799 | — | — | 0.000120079 | 0.000257777 | 0.09576045 | 0.023125989 |
| Cadmium | Cd | — | 0.000143563 | 0.001327579 | 0.176999504 | 0.004563554 | 0.000796548 | 0.170311824 | — | — | — | 0.001327579 | 0.002503836 | 6.41859E-05 | 1.12034E-05 | 0.002395418 | — | — | 1.43563E-05 | 1.86723E-05 | 0.17700459 | 0.004563554 |
| Cobalt | Co | — | 0.000287126 | 0.143768028 | 0.36301427 | 0.079072415 | 0.008626082 | 0.131547745 | — | — | — | 0.143768028 | 0.003029562 | 0.000645833 | 7.04545E-05 | 0.00107443 | — | — | 6.46033E-05 | 0.001174241 | 0.363152615 | 0.079072415 |
| Copper | Cu | — | 0.001292066 | 0.047179654 | 0.932034073 | 0.518976199 | 0.099077274 | 0.266800946 | — | — | — | 0.047179654 | 0.011203161 | 0.006038309 | 0.001152768 | 0.00310424 | — | — | 0.000358907 | 0.000548937 | 0.932310274 | 0.518976199 |
| Cyanide | CN- | — | 0.071781432 | — | — | — | — | — | — | — | — | — | 0.000358907 | — | — | — | — | — | 0.000358907 | — | 0.000259972 | — |
| Lead | Pb | — | 0.005886077 | 0.17368151 | 4.744805165 | 0.214930868 | 0.002865745 | 4.353327042 | — | — | — | 0.17368151 | 0.068424311 | 0.003083236 | 4.11098E-05 | 0.062449553 | — | — | 0.000358907 | 0.002491504 | 4.745009421 | 0.214930868 |
| Mercury | Hg | — | 0.000129207 | 0.000329698 | 0.022875291 | 0.009066703 | 0.000544002 | 0.012934888 | — | — | — | 0.000329698 | 0.00020023 | 7.36717E-05 | 4.4203E-06 | 0.000105103 | — | — | 1.43563E-05 | 2.67897E-06 | 0.022878843 | 0.009066703 |
| Methyl-Mercury | Me-Hg | — | 0.000129207 | — | — | — | — | — | — | — | — | — | 1.43563E-05 | — | — | — | — | — | 1.43563E-05 | — | 3.55185E-06 | — |
| Silver | Ag | — | 3.58907E-06 | 0.001529659 | 0.027522308 | 7.57181E-06 | 0.002523937 | 0.023461141 | — | — | — | 0.001529659 | 0.00055554 | 1.50888E-07 | 5.02961E-05 | 0.000467525 | — | — | 7.08523E-06 | 3.04825E-05 | 0.027542934 | 7.57181E-06 |
| Thallium | Tl | — | 0.046083679 | 0.000358208 | 0.005961471 | 3.94028E-05 | 6.98505E-05 | 0.00549401 | — | — | — | 0.000358208 | 0.000240554 | 1.44763E-06 | 2.56625E-06 | 0.000201845 | — | — | 2.15344E-05 | 1.31602E-05 | 0.006023421 | 3.94028E-05 |
| Uranium | U | — | 0.000358907 | 0.001124738 | 0.019015945 | 0.000618606 | 2.19324E-05 | 0.017250668 | — | — | — | 0.001124738 | 0.000654241 | 9.60749E-06 | 3.40629E-07 | 0.000267918 | — | — | 0.000358907 | 1.74682E-05 | 0.020010355 | 0.000618606 |
| Zinc | Zn | — | 0.002871257 | 0.532683409 | 10.74688777 | 3.662198434 | 0.878927624 | 5.673078302 | — | — | — | 0.532683409 | 0.135034481 | 0.045281643 | 0.010867594 | 0.070145381 | — | — | 0.002153443 | 0.006586421 | 10.74794168 | 3.662198434 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 32.5811794 | 7.849102309 | — | — | 0.049731016 | 19.74616933 | 603.2103921 | 543.0196566 | 32.5811794 | 7.849102309 | — | — | 0.014284505 | 19.74616933 | 603.2458387 | 543.0196566 | 32.5811794 | 7.849102309 | — | — | 0.049731016 |
| Antimony | Sb | 0.00152111 | 0.042253066 | — | — | 0.00017521 | 0.005633742 | 0.080537062 | 0.030985581 | 0.00152111 | 0.042253066 | — | — | 0.000143563 | 0.005633742 | 0.08056871 | 0.030985581 | 0.00152111 | 0.042253066 | — | — | 0.00017521 |
| Arsenic | As | 0.003854332 | 0.045200797 | — | — | 0.000219747 | 0.023359585 | 0.096832768 | 0.023125989 | 0.003854332 | 0.045200797 | — | — | 0.001292066 | 0.023359585 | 0.09576045 | 0.023125989 | 0.003854332 | 0.045200797 | — | — | 0.000219747 |
| Cadmium | Cd | 0.000796548 | 0.170311824 | — | — | 5.0857E-06 | 0.001327579 | 0.177143067 | 0.004563554 | 0.000796548 | 0.170311824 | — | — | 0.000143563 | 0.001327579 | 0.17700459 | 0.004563554 | 0.000796548 | 0.170311824 | — | — | 5.0857E-06 |
| Cobalt | Co | 0.008626082 | 0.131547745 | — | — | 0.000138346 | 0.143768028 | 0.363301395 | 0.079072415 | 0.008626082 | 0.131547745 | — | — | 0.000287126 | 0.143768028 | 0.363152615 | 0.079072415 | 0.008626082 | 0.131547745 | — | — | 0.000138346 |
| Copper | Cu | 0.099077274 | 0.266800946 | — | — | 0.0002762 | 0.047179654 | 0.933326139 | 0.518976199 | 0.099077274 | 0.266800946 | — | — | 0.001292066 | 0.047179654 | 0.932310274 | 0.518976199 | 0.099077274 | 0.266800946 | — | — | 0.0002762 |
| Cyanide | CN- | — | — | — | — | 0.000259972 | — | 0.071781432 | — | — | — | — | — | 0.071781432 | — | 0.000259972 | — | — | — | — | — | 0.000259972 |
| Lead | Pb | 0.002865745 | 4.353327042 | — | — | 0.000204256 | 0.17368151 | 4.750691243 | 0.214930868 | 0.002865745 | 4.353327042 | — | — | 0.005886077 | 0.17368151 | 4.745009421 | 0.214930868 | 0.002865745 | 4.353327042 | — | — | 0.000204256 |
| Mercury | Hg | 0.000544002 | 0.012934888 | — | — | 3.55185E-06 | 0.000329698 | 0.023004498 | 0.009066703 | 0.000544002 | 0.012934888 | — | — | 0.000129207 | 0.000329698 | 0.022878843 | 0.009066703 | 0.000544002 | 0.012934888 | — | — | 3.55185E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 3.55185E-06 | — | 0.000129207 | — | — | — | — | — | 0.000129207 | — | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 |
| Silver | Ag | 0.002523937 | 0.023461141 | — | — | 2.0625E-05 | 0.001529659 | 0.027525898 | 7.57181E-06 | 0.002523937 | 0.023461141 | — | — | 3.58907E-06 | 0.001529659 | 0.027542934 | 7.57181E-06 | 0.002523937 | 0.023461141 | — | — | 2.0625E-05 |
| Thallium | Tl | 6.98505E-05 | 0.00549401 | — | — | 6.19507E-05 | 0.000358208 | 0.05204515 | 3.94028E-05 | 6.98505E-05 | 0.00549401 | — | — | 0.046083679 | 0.000358208 | 0.006023421 | 3.94028E-05 | 6.98505E-05 | 0.00549401 | — | — | 6.19507E-05 |
| Uranium | U | 2.19324E-05 | 0.017250668 | — | — | 0.000994411 | 0.001124738 | 0.019374852 | 0.000618606 | 2.19324E-05 | 0.017250668 | — | — | 0.000358907 | 0.001124738 | 0.020010355 | 0.000618606 | 2.19324E-05 | 0.017250668 | — | — | 0.000994411 |
| Zinc | Zn | 0.878927624 | 5.673078302 | — | — | 0.001053914 | 0.532683409 | 10.74975903 | 3.662198434 | 0.878927624 | 5.673078302 | — | — | 0.002871257 | 0.532683409 | 10.74794168 | 3.662198434 | 0.878927624 | 5.673078302 | — | — | 0.001053914 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 19.74616933 | 4.88151799 | 4.389678223 | 0.263380693 | 0.063450803 | — | — | 0.005383607 | 0.159624663 | 0.049731016 | — | — | — | — | — | 0.049731016 | — | 0.027332881 | 0.02460608 | 0.001476365 | 0.00035567 |
| Antimony | Sb | 0.005633742 | 0.009702473 | 0.003707074 | 0.000181984 | 0.0050551 | — | — | 8.4302E-05 | 0.000674013 | 0.00873721 | 0.0033 | 0.000162 | 0.0045 | — | — | 0.00017521 | 0.0006 | 3.69408E-06 | 1.42379E-06 | 6.9895E-08 | 1.94153E-06 |
| Arsenic | As | 0.023359585 | 0.0176827 | 0.004251099 | 0.000708517 | 0.008308967 | — | — | 0.000120079 | 0.00429404 | 0.016728061 | 0.0039959 | 0.000665983 | 0.007810168 | — | — | 0.000219747 | 0.004036262 | 4.42795E-06 | 1.0718E-06 | 1.78633E-07 | 2.09488E-06 |
| Cadmium | Cd | 0.001327579 | 0.062278696 | 0.001605353 | 0.000280207 | 0.059911768 | — | — | 1.43563E-05 | 0.000467012 | 0.059779945 | 0.001541167 | 0.000269004 | 0.057516349 | — | — | 5.0857E-06 | 0.000448339 | 8.37772E-06 | 2.16002E-07 | 3.77021E-08 | 8.06118E-06 |
| Cobalt | Co | 0.143768028 | 0.037430569 | 0.008139121 | 0.000887904 | 0.013540538 | — | — | 6.46033E-05 | 0.014798402 | 0.034539353 | 0.007493289 | 0.00081745 | 0.012466108 | — | — | 0.000138346 | 0.013624161 | 1.6655E-05 | 3.62783E-06 | 3.95763E-07 | 6.03539E-06 |
| Copper | Cu | 0.047179654 | 0.595074032 | 0.331149905 | 0.063219527 | 0.170241156 | — | — | 0.000358907 | 0.030104537 | 0.584147071 | 0.325111596 | 0.062066759 | 0.167136916 | — | — | 0.0002762 | 0.0295556 | 4.57234E-05 | 2.54598E-05 | 4.8605E-06 | 1.30886E-05 |
| Cyanide | CN- | — | 0.000358907 | — | — | — | — | — | 0.000358907 | — | 0.000259972 | — | — | — | — | — | 0.000259972 | — | — | — | — | — |
| Lead | Pb | 0.17368151 | 0.374139809 | 0.016931581 | 0.000225754 | 0.34294148 | — | — | 0.000358907 | 0.013682086 | 0.305919754 | 0.013848345 | 0.000184645 | 0.280491927 | — | — | 0.000204256 | 0.011190582 | 0.000216831 | 9.82202E-06 | 1.3096E-07 | 0.000198941 |
| Mercury | Hg | 0.000329698 | 0.00346655 | 0.001368289 | 8.20973E-05 | 0.001952051 | — | — | 1.43563E-05 | 4.9756E-05 | 0.003269872 | 0.001294617 | 7.7677E-05 | 0.001846948 | — | — | 3.55185E-06 | 4.7077E-05 | 1.05608E-06 | 4.18581E-07 | 2.51149E-08 | 5.97163E-07 |
| Methyl-Mercury | Me-Hg | — | 1.43563E-05 | — | — | — | — | — | 1.43563E-05 | — | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 | — | — | — | — | — |
| Silver | Ag | 0.001529659 | 0.003089229 | 8.47945E-07 | 0.000282648 | 0.002627345 | — | — | 7.08523E-06 | 0.000171302 | 0.002554314 | 6.97057E-07 | 0.000232352 | 0.00215982 | — | — | 2.0625E-05 | 0.00014082 | 1.26227E-06 | 3.47271E-10 | 1.15757E-07 | 1.07601E-06 |
| Thallium | Tl | 0.000358208 | 0.005233304 | 3.44476E-05 | 6.10662E-05 | 0.004803095 | — | — | 2.15344E-05 | 0.00031316 | 0.005054701 | 0.000033 | 0.0000585 | 0.00460125 | — | — | 6.19507E-05 | 0.0003 | 2.99976E-07 | 1.98272E-09 | 3.51482E-09 | 2.76454E-07 |
| Uranium | U | 0.001124738 | 0.010798441 | 0.000339607 | 1.20406E-05 | 0.009470418 | — | — | 0.000358907 | 0.000617468 | 0.011138611 | 0.00033 | 0.0000117 | 0.0092025 | — | — | 0.000994411 | 0.0006 | 9.22309E-07 | 3.00035E-08 | 1.06376E-09 | 8.3669E-07 |
| Zinc | Zn | 0.532683409 | 1.764497102 | 0.600550813 | 0.144132195 | 0.930307805 | — | — | 0.002153443 | 0.087352846 | 1.630516535 | 0.555269171 | 0.133264601 | 0.860162425 | — | — | 0.001053914 | 0.080766425 | 0.000496717 | 0.000169266 | 4.06237E-05 | 0.000262208 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.000894767 | 0.219869254 | 0.197934511 | 0.011876071 | 0.002861053 | — | — | — | 0.007197619 | 0.247262049 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | — | 0.008094346 | 0.296980327 |
| Antimony | Sb | — | — | — | 2.5887E-07 | 0.000491965 | 1.97625E-05 | 9.70158E-07 | 2.69488E-05 | — | — | 0.00044069 | 3.59318E-06 | 5.49773E-05 | 2.11896E-05 | 1.04021E-06 | 2.88948E-05 | — | — | — | 3.85265E-06 | 0.000230188 |
| Arsenic | As | — | — | — | 1.08263E-06 | 0.00184077 | 1.20952E-05 | 2.01587E-06 | 2.36407E-05 | — | — | 0.001790801 | 1.22174E-05 | 5.44078E-05 | 1.31696E-05 | 2.19493E-06 | 2.57406E-05 | — | — | — | 1.33026E-05 | 0.000274155 |
| Cadmium | Cd | — | — | — | 6.28369E-08 | 0.000128044 | 3.12994E-06 | 5.46317E-07 | 0.000116809 | — | — | 6.64741E-06 | 9.10528E-07 | 0.000129795 | 3.3465E-06 | 5.84116E-07 | 0.000124891 | — | — | — | 9.73527E-07 | 0.000139861 |
| Cobalt | Co | — | — | — | 6.59605E-06 | 0.000133633 | 2.91081E-05 | 3.17543E-06 | 4.84253E-05 | — | — | — | 5.29238E-05 | 0.000150326 | 3.27443E-05 | 3.5721E-06 | 5.44746E-05 | — | — | — | 5.9535E-05 | 0.000270827 |
| Copper | Cu | — | — | — | 2.31452E-06 | 0.000759774 | 0.000286008 | 5.46015E-05 | 0.000147034 | — | — | 0.00024613 | 2.60007E-05 | 0.000559499 | 0.000311541 | 5.9476E-05 | 0.00016016 | — | — | — | 2.83219E-05 | 0.000848038 |
| Cyanide | CN- | — | — | — | — | 0.000232028 | — | — | — | — | — | 0.000232028 | — | — | — | — | — | — | — | — | — | 0.000259963 |
| Lead | Pb | — | — | — | 7.93699E-06 | 0.003556419 | 0.000151263 | 2.01683E-06 | 0.003063754 | — | — | 0.000217153 | 0.000122232 | 0.003556588 | 0.000161107 | 2.14809E-06 | 0.003263146 | — | — | — | 0.000130187 | 0.003816625 |
| Mercury | Hg | — | — | — | 1.52211E-08 | 8.35773E-06 | 3.31262E-06 | 1.98757E-07 | 4.7259E-06 | — | — | — | 1.20459E-07 | 9.4163E-06 | 3.73218E-06 | 2.23931E-07 | 5.32447E-06 | — | — | — | 1.35716E-07 | 1.25145E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.09821E-06 |
| Silver | Ag | — | — | — | 7.01557E-08 | 2.77023E-05 | 7.62134E-09 | 2.54045E-06 | 2.36146E-05 | — | — | — | 1.53966E-06 | 2.89675E-05 | 7.9694E-09 | 2.65647E-06 | 2.46931E-05 | — | — | — | 1.60998E-06 | 4.95925E-05 |
| Thallium | Tl | — | — | — | 1.80247E-08 | 1.13971E-05 | 7.53302E-08 | 1.3354E-07 | 1.05034E-05 | — | — | — | 6.8482E-07 | 1.1698E-05 | 7.7319E-08 | 1.37066E-07 | 1.07807E-05 | — | — | — | 7.029E-07 | 7.36487E-05 |
| Uranium | U | — | — | — | 5.45519E-08 | 1.45187E-05 | 4.72308E-07 | 1.67455E-08 | 1.31709E-05 | — | — | — | 8.58742E-07 | 1.54436E-05 | 5.02395E-07 | 1.78122E-08 | 1.401E-05 | — | — | — | 9.13445E-07 | 0.001009854 |
| Zinc | Zn | — | — | — | 2.46204E-05 | 0.007469846 | 0.002180446 | 0.000523307 | 0.003377709 | — | — | 0.001071228 | 0.000317156 | 0.006896512 | 0.002350113 | 0.000564027 | 0.003640538 | — | — | — | 0.000341835 | 0.009160193 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.222594528 | 0.013355672 | 0.003217503 | — | — | 0.049718278 | 0.008094346 | 0.077063897 | 0.02460608 | 0.001476365 | 0.00035567 | — | — | 0.049731016 | 0.000894767 | 0.269608224 | 0.197934511 | 0.011876071 | 0.002861053 | — | — |
| Antimony | Sb | 2.11896E-05 | 1.04021E-06 | 2.88948E-05 | — | — | 0.00017521 | 3.85265E-06 | 0.008740904 | 0.003301424 | 0.00016207 | 0.004501942 | — | — | 0.00017521 | 0.000600259 | 0.009053965 | 0.003319762 | 0.00016297 | 0.004526949 | — | — |
| Arsenic | As | 1.31696E-05 | 2.19493E-06 | 2.57406E-05 | — | — | 0.000219747 | 1.33026E-05 | 0.016732489 | 0.003996972 | 0.000666162 | 0.007812263 | — | — | 0.000219747 | 0.004037345 | 0.018349083 | 0.004007995 | 0.000667999 | 0.007833809 | — | — |
| Cadmium | Cd | 3.3465E-06 | 5.84116E-07 | 0.000124891 | — | — | 1.00659E-05 | 9.73527E-07 | 0.059788323 | 0.001541383 | 0.000269041 | 0.057524411 | — | — | 5.0857E-06 | 0.000448402 | 0.059902903 | 0.001544297 | 0.00026955 | 0.057633159 | — | — |
| Cobalt | Co | 3.27443E-05 | 3.5721E-06 | 5.44746E-05 | — | — | 0.000120501 | 5.9535E-05 | 0.034556008 | 0.007496917 | 0.000817845 | 0.012472143 | — | — | 0.000138346 | 0.013630757 | 0.034664583 | 0.007522397 | 0.000820625 | 0.012514533 | — | — |
| Copper | Cu | 0.000311541 | 5.9476E-05 | 0.00016016 | — | — | 0.000288539 | 2.83219E-05 | 0.584192795 | 0.325137056 | 0.06207162 | 0.167150005 | — | — | 0.0002762 | 0.029557914 | 0.584660715 | 0.325397604 | 0.062121361 | 0.16728395 | — | — |
| Cyanide | CN- | — | — | — | — | — | 0.000259963 | — | 0.000259972 | — | — | — | — | — | 0.000259972 | — | 0.000259972 | — | — | — | — | — |
| Lead | Pb | 0.000161107 | 2.14809E-06 | 0.003263146 | — | — | 0.000260037 | 0.000130187 | 0.306136585 | 0.013858167 | 0.000184776 | 0.280690868 | — | — | 0.000204256 | 0.011198519 | 0.309271917 | 0.013999607 | 0.000186661 | 0.283555681 | — | — |
| Mercury | Hg | 3.73218E-06 | 2.23931E-07 | 5.32447E-06 | — | — | 3.09821E-06 | 1.35716E-07 | 0.003270928 | 0.001295036 | 7.77022E-05 | 0.001847545 | — | — | 3.55185E-06 | 4.70922E-05 | 0.00327823 | 0.00129793 | 7.78758E-05 | 0.001851674 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 3.09821E-06 | — | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 | — | 3.5522E-06 | — | — | — | — | — |
| Silver | Ag | 7.9694E-09 | 2.65647E-06 | 2.46931E-05 | — | — | 2.0625E-05 | 1.60998E-06 | 0.002555576 | 6.97404E-07 | 0.000232468 | 0.002160896 | — | — | 2.0625E-05 | 0.00014089 | 0.002582017 | 7.04678E-07 | 0.000234893 | 0.002183435 | — | — |
| Thallium | Tl | 7.7319E-08 | 1.37066E-07 | 1.07807E-05 | — | — | 6.19507E-05 | 7.029E-07 | 0.005055001 | 3.3002E-05 | 5.85035E-05 | 0.004601526 | — | — | 6.19507E-05 | 0.000300018 | 0.005066098 | 3.30753E-05 | 5.86335E-05 | 0.004611753 | — | — |
| Uranium | U | 5.02395E-07 | 1.78122E-08 | 1.401E-05 | — | — | 0.000994411 | 9.13445E-07 | 0.011139533 | 0.00033003 | 1.17011E-05 | 0.009203337 | — | — | 0.000994411 | 0.000600055 | 0.011153129 | 0.000330472 | 1.17167E-05 | 0.009215671 | — | — |
| Zinc | Zn | 0.002350113 | 0.000564027 | 0.003640538 | — | — | 0.002263681 | 0.000341835 | 1.631013253 | 0.555438436 | 0.133305225 | 0.860424632 | — | — | 0.001053914 | 0.080791045 | 1.636932467 | 0.557449617 | 0.133787908 | 0.863540134 | — | — |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.04973897 | 0.007197619 | 0.296993065 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | 0.049731016 | 0.008094346 | 0.296980327 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | 0.049718278 | 0.008094346 | 0.049731016 | — | — |
| Antimony | Sb | 0.00044069 | 0.000603593 | 0.008792188 | 0.00332119 | 0.00016304 | 0.004528895 | — | — | 0.00017521 | 0.000603853 | 0.008792188 | 0.00332119 | 0.00016304 | 0.004528895 | — | — | 0.00017521 | 0.000603853 | 0.00873721 | 0.0033 | 0.000162 |
| Arsenic | As | 0.001790801 | 0.00404848 | 0.016782469 | 0.004009069 | 0.000668178 | 0.007835909 | — | — | 0.000219747 | 0.004049565 | 0.016782469 | 0.004009069 | 0.000668178 | 0.007835909 | — | — | 0.000219747 | 0.004049565 | 0.016728061 | 0.0039959 | 0.000665983 |
| Cadmium | Cd | 6.64741E-06 | 0.00044925 | 0.059909741 | 0.001544513 | 0.000269588 | 0.057641241 | — | — | 5.0857E-06 | 0.000449313 | 0.059914721 | 0.001544513 | 0.000269588 | 0.057641241 | — | — | 1.00659E-05 | 0.000449313 | 0.059779945 | 0.001541167 | 0.000269004 |
| Cobalt | Co | 0.000129943 | 0.013677085 | 0.034689679 | 0.007526033 | 0.000821022 | 0.012520582 | — | — | 0.000138346 | 0.013683696 | 0.034676069 | 0.007526033 | 0.000821022 | 0.012520582 | — | — | 0.000124736 | 0.013683696 | 0.034539353 | 0.007493289 | 0.00081745 |
| Copper | Cu | 0.0002762 | 0.0295816 | 0.58470657 | 0.325423137 | 0.062126235 | 0.167297076 | — | — | 0.0002762 | 0.029583922 | 0.584718909 | 0.325423137 | 0.062126235 | 0.167297076 | — | — | 0.000288539 | 0.029583922 | 0.584147071 | 0.325111596 | 0.062066759 |
| Cyanide | CN- | 0.000259972 | — | 0.000259972 | — | — | — | — | — | 0.000259972 | — | 0.000259963 | — | — | — | — | — | 0.000259963 | — | 0.000259972 | — | — |
| Lead | Pb | 0.000217153 | 0.011312814 | 0.309476342 | 0.014009452 | 0.000186793 | 0.283755073 | — | — | 0.000204256 | 0.011320769 | 0.309532123 | 0.014009452 | 0.000186793 | 0.283755073 | — | — | 0.000260037 | 0.011320769 | 0.305919754 | 0.013848345 | 0.000184645 |
| Mercury | Hg | 3.5522E-06 | 4.71975E-05 | 0.003279288 | 0.00129835 | 7.7901E-05 | 0.001852273 | — | — | 3.55185E-06 | 4.72127E-05 | 0.003278834 | 0.00129835 | 7.7901E-05 | 0.001852273 | — | — | 3.09821E-06 | 4.72127E-05 | 0.003269872 | 0.001294617 | 7.7677E-05 |
| Methyl-Mercury | Me-Hg | 3.5522E-06 | — | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 | — | 3.09821E-06 | — | — | — | — | — | 3.09821E-06 | — | 3.55185E-06 | — | — |
| Silver | Ag | 2.0625E-05 | 0.000142359 | 0.002583282 | 7.05026E-07 | 0.000235009 | 0.002184513 | — | — | 2.0625E-05 | 0.00014243 | 0.002583282 | 7.05026E-07 | 0.000235009 | 0.002184513 | — | — | 2.0625E-05 | 0.00014243 | 0.002554314 | 6.97057E-07 | 0.000232352 |
| Thallium | Tl | 6.19507E-05 | 0.000300685 | 0.005066399 | 3.30773E-05 | 5.86371E-05 | 0.004612031 | — | — | 6.19507E-05 | 0.000300703 | 0.005066399 | 3.30773E-05 | 5.86371E-05 | 0.004612031 | — | — | 6.19507E-05 | 0.000300703 | 0.005054701 | 0.000033 | 0.0000585 |
| Uranium | U | 0.000994411 | 0.000600859 | 0.011154054 | 0.000330502 | 1.17178E-05 | 0.00921651 | — | — | 0.000994411 | 0.000600913 | 0.011154054 | 0.000330502 | 1.17178E-05 | 0.00921651 | — | — | 0.000994411 | 0.000600913 | 0.011138611 | 0.00033 | 0.0000117 |
| Zinc | Zn | 0.001071228 | 0.081083581 | 1.637413047 | 0.557619283 | 0.133828628 | 0.863802963 | — | — | 0.001053914 | 0.081108259 | 1.638622814 | 0.557619283 | 0.133828628 | 0.863802963 | — | — | 0.002263681 | 0.081108259 | 1.630516535 | 0.555269171 | 0.133264601 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.049731016 | — | 0.027332881 | 0.02460608 | 0.001476365 | 0.00035567 | — | — | — | 0.000894767 | 0.219869254 | 0.197934511 | 0.011876071 | 0.002861053 | — | — | — | 0.007197619 |
| Antimony | Sb | 0.0045 | — | — | 0.00017521 | 0.0006 | 3.69408E-06 | 1.42379E-06 | 6.9895E-08 | 1.94153E-06 | — | — | — | 2.5887E-07 | 0.000491965 | 1.97625E-05 | 9.70158E-07 | 2.69488E-05 | — | — | 0.00044069 | 3.59318E-06 |
| Arsenic | As | 0.007810168 | — | — | 0.000219747 | 0.004036262 | 4.42795E-06 | 1.0718E-06 | 1.78633E-07 | 2.09488E-06 | — | — | — | 1.08263E-06 | 0.00184077 | 1.20952E-05 | 2.01587E-06 | 2.36407E-05 | — | — | 0.001790801 | 1.22174E-05 |
| Cadmium | Cd | 0.057516349 | — | — | 5.0857E-06 | 0.000448339 | 8.37772E-06 | 2.16002E-07 | 3.77021E-08 | 8.06118E-06 | — | — | — | 6.28369E-08 | 0.000128044 | 3.12994E-06 | 5.46317E-07 | 0.000116809 | — | — | 6.64741E-06 | 9.10528E-07 |
| Cobalt | Co | 0.012466108 | — | — | 0.000138346 | 0.013624161 | 1.6655E-05 | 3.62783E-06 | 3.95763E-07 | 6.03539E-06 | — | — | — | 6.59605E-06 | 0.000133633 | 2.91081E-05 | 3.17543E-06 | 4.84253E-05 | — | — | — | 5.29238E-05 |
| Copper | Cu | 0.167136916 | — | — | 0.0002762 | 0.0295556 | 4.57234E-05 | 2.54598E-05 | 4.8605E-06 | 1.30886E-05 | — | — | — | 2.31452E-06 | 0.000759774 | 0.000286008 | 5.46015E-05 | 0.000147034 | — | — | 0.00024613 | 2.60007E-05 |
| Cyanide | CN- | — | — | — | 0.000259972 | — | — | — | — | — | — | — | — | — | 0.000232028 | — | — | — | — | — | 0.000232028 | — |
| Lead | Pb | 0.280491927 | — | — | 0.000204256 | 0.011190582 | 0.000216831 | 9.82202E-06 | 1.3096E-07 | 0.000198941 | — | — | — | 7.93699E-06 | 0.003556419 | 0.000151263 | 2.01683E-06 | 0.003063754 | — | — | 0.000217153 | 0.000122232 |
| Mercury | Hg | 0.001846948 | — | — | 3.55185E-06 | 4.7077E-05 | 1.05608E-06 | 4.18581E-07 | 2.51149E-08 | 5.97163E-07 | — | — | — | 1.52211E-08 | 8.35773E-06 | 3.31262E-06 | 1.98757E-07 | 4.7259E-06 | — | — | — | 1.20459E-07 |
| Methyl-Mercury | Me-Hg | — | — | — | 3.55185E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 0.00215982 | — | — | 2.0625E-05 | 0.00014082 | 1.26227E-06 | 3.47271E-10 | 1.15757E-07 | 1.07601E-06 | — | — | — | 7.01557E-08 | 2.77023E-05 | 7.62134E-09 | 2.54045E-06 | 2.36146E-05 | — | — | — | 1.53966E-06 |
| Thallium | Tl | 0.00460125 | — | — | 6.19507E-05 | 0.0003 | 2.99976E-07 | 1.98272E-09 | 3.51482E-09 | 2.76454E-07 | — | — | — | 1.80247E-08 | 1.13971E-05 | 7.53302E-08 | 1.3354E-07 | 1.05034E-05 | — | — | — | 6.8482E-07 |
| Uranium | U | 0.0092025 | — | — | 0.000994411 | 0.0006 | 9.22309E-07 | 3.00035E-08 | 1.06376E-09 | 8.3669E-07 | — | — | — | 5.45519E-08 | 1.45187E-05 | 4.72308E-07 | 1.67455E-08 | 1.31709E-05 | — | — | — | 8.58742E-07 |
| Zinc | Zn | 0.860162425 | — | — | 0.001053914 | 0.080766425 | 0.000496717 | 0.000169266 | 4.06237E-05 | 0.000262208 | — | — | — | 2.46204E-05 | 0.007469846 | 0.002180446 | 0.000523307 | 0.003377709 | — | — | 0.001071228 | 0.000317156 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.247262049 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | — | 0.008094346 | 0.296980327 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | 0.049718278 | 0.008094346 | 0.077063897 | 0.02460608 | 0.001476365 | 0.00035567 | — |
| Antimony | Sb | 5.49773E-05 | 2.11896E-05 | 1.04021E-06 | 2.88948E-05 | — | — | — | 3.85265E-06 | 0.000230188 | 2.11896E-05 | 1.04021E-06 | 2.88948E-05 | — | — | 0.00017521 | 3.85265E-06 | 0.008740904 | 0.003301424 | 0.00016207 | 0.004501942 | — |
| Arsenic | As | 5.44078E-05 | 1.31696E-05 | 2.19493E-06 | 2.57406E-05 | — | — | — | 1.33026E-05 | 0.000274155 | 1.31696E-05 | 2.19493E-06 | 2.57406E-05 | — | — | 0.000219747 | 1.33026E-05 | 0.016732489 | 0.003996972 | 0.000666162 | 0.007812263 | — |
| Cadmium | Cd | 0.000129795 | 3.3465E-06 | 5.84116E-07 | 0.000124891 | — | — | — | 9.73527E-07 | 0.000139861 | 3.3465E-06 | 5.84116E-07 | 0.000124891 | — | — | 1.00659E-05 | 9.73527E-07 | 0.059788323 | 0.001541383 | 0.000269041 | 0.057524411 | — |
| Cobalt | Co | 0.000150326 | 3.27443E-05 | 3.5721E-06 | 5.44746E-05 | — | — | — | 5.9535E-05 | 0.000270827 | 3.27443E-05 | 3.5721E-06 | 5.44746E-05 | — | — | 0.000120501 | 5.9535E-05 | 0.034556008 | 0.007496917 | 0.000817845 | 0.012472143 | — |
| Copper | Cu | 0.000559499 | 0.000311541 | 5.9476E-05 | 0.00016016 | — | — | — | 2.83219E-05 | 0.000848038 | 0.000311541 | 5.9476E-05 | 0.00016016 | — | — | 0.000288539 | 2.83219E-05 | 0.584192795 | 0.325137056 | 0.06207162 | 0.167150005 | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000259963 | — | — | — | — | — | 0.000259963 | — | 0.000259972 | — | — | — | — |
| Lead | Pb | 0.003556588 | 0.000161107 | 2.14809E-06 | 0.003263146 | — | — | — | 0.000130187 | 0.003816625 | 0.000161107 | 2.14809E-06 | 0.003263146 | — | — | 0.000260037 | 0.000130187 | 0.306136585 | 0.013858167 | 0.000184776 | 0.280690868 | — |
| Mercury | Hg | 9.4163E-06 | 3.73218E-06 | 2.23931E-07 | 5.32447E-06 | — | — | — | 1.35716E-07 | 1.25145E-05 | 3.73218E-06 | 2.23931E-07 | 5.32447E-06 | — | — | 3.09821E-06 | 1.35716E-07 | 0.003270928 | 0.001295036 | 7.77022E-05 | 0.001847545 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 3.09821E-06 | — | — | — | — | — | 3.09821E-06 | — | 3.55185E-06 | — | — | — | — |
| Silver | Ag | 2.89675E-05 | 7.9694E-09 | 2.65647E-06 | 2.46931E-05 | — | — | — | 1.60998E-06 | 4.95925E-05 | 7.9694E-09 | 2.65647E-06 | 2.46931E-05 | — | — | 2.0625E-05 | 1.60998E-06 | 0.002555576 | 6.97404E-07 | 0.000232468 | 0.002160896 | — |
| Thallium | Tl | 1.1698E-05 | 7.7319E-08 | 1.37066E-07 | 1.07807E-05 | — | — | — | 7.029E-07 | 7.36487E-05 | 7.7319E-08 | 1.37066E-07 | 1.07807E-05 | — | — | 6.19507E-05 | 7.029E-07 | 0.005055001 | 3.3002E-05 | 5.85035E-05 | 0.004601526 | — |
| Uranium | U | 1.54436E-05 | 5.02395E-07 | 1.78122E-08 | 1.401E-05 | — | — | — | 9.13445E-07 | 0.001009854 | 5.02395E-07 | 1.78122E-08 | 1.401E-05 | — | — | 0.000994411 | 9.13445E-07 | 0.011139533 | 0.00033003 | 1.17011E-05 | 0.009203337 | — |
| Zinc | Zn | 0.006896512 | 0.002350113 | 0.000564027 | 0.003640538 | — | — | — | 0.000341835 | 0.009160193 | 0.002350113 | 0.000564027 | 0.003640538 | — | — | 0.002263681 | 0.000341835 | 1.631013253 | 0.555438436 | 0.133305225 | 0.860424632 | — |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) | Total Dose to Ruffed Grouse (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.049731016 | 0.000894767 | 0.269608224 | 0.197934511 | 0.011876071 | 0.002861053 | — | — | 0.04973897 | 0.007197619 | 0.296993065 | 0.222594528 | 0.013355672 | 0.003217503 | — | — | 0.049731016 | 0.008094346 | 0.296980327 | 0.222594528 |
| Antimony | Sb | — | 0.00017521 | 0.000600259 | 0.009053965 | 0.003319762 | 0.00016297 | 0.004526949 | — | — | 0.00044069 | 0.000603593 | 0.008792188 | 0.00332119 | 0.00016304 | 0.004528895 | — | — | 0.00017521 | 0.000603853 | 0.008792188 | 0.00332119 |
| Arsenic | As | — | 0.000219747 | 0.004037345 | 0.018349083 | 0.004007995 | 0.000667999 | 0.007833809 | — | — | 0.001790801 | 0.00404848 | 0.016782469 | 0.004009069 | 0.000668178 | 0.007835909 | — | — | 0.000219747 | 0.004049565 | 0.016782469 | 0.004009069 |
| Cadmium | Cd | — | 5.0857E-06 | 0.000448402 | 0.059902903 | 0.001544297 | 0.00026955 | 0.057633159 | — | — | 6.64741E-06 | 0.00044925 | 0.059909741 | 0.001544513 | 0.000269588 | 0.057641241 | — | — | 5.0857E-06 | 0.000449313 | 0.059914721 | 0.001544513 |
| Cobalt | Co | — | 0.000138346 | 0.013630757 | 0.034664583 | 0.007522397 | 0.000820625 | 0.012514533 | — | — | 0.000129943 | 0.013677085 | 0.034689679 | 0.007526033 | 0.000821022 | 0.012520582 | — | — | 0.000138346 | 0.013683696 | 0.034676069 | 0.007526033 |
| Copper | Cu | — | 0.0002762 | 0.029557914 | 0.584660715 | 0.325397604 | 0.062121361 | 0.16728395 | — | — | 0.0002762 | 0.0295816 | 0.58470657 | 0.325423137 | 0.062126235 | 0.167297076 | — | — | 0.0002762 | 0.029583922 | 0.584718909 | 0.325423137 |
| Cyanide | CN- | — | 0.000259972 | — | 0.000259972 | — | — | — | — | — | 0.000259972 | — | 0.000259972 | — | — | — | — | — | 0.000259972 | — | 0.000259963 | — |
| Lead | Pb | — | 0.000204256 | 0.011198519 | 0.309271917 | 0.013999607 | 0.000186661 | 0.283555681 | — | — | 0.000217153 | 0.011312814 | 0.309476342 | 0.014009452 | 0.000186793 | 0.283755073 | — | — | 0.000204256 | 0.011320769 | 0.309532123 | 0.014009452 |
| Mercury | Hg | — | 3.55185E-06 | 4.70922E-05 | 0.00327823 | 0.00129793 | 7.78758E-05 | 0.001851674 | — | — | 3.5522E-06 | 4.71975E-05 | 0.003279288 | 0.00129835 | 7.7901E-05 | 0.001852273 | — | — | 3.55185E-06 | 4.72127E-05 | 0.003278834 | 0.00129835 |
| Methyl-Mercury | Me-Hg | — | 3.55185E-06 | — | 3.5522E-06 | — | — | — | — | — | 3.5522E-06 | — | 3.55185E-06 | — | — | — | — | — | 3.55185E-06 | — | 3.09821E-06 | — |
| Silver | Ag | — | 2.0625E-05 | 0.00014089 | 0.002582017 | 7.04678E-07 | 0.000234893 | 0.002183435 | — | — | 2.0625E-05 | 0.000142359 | 0.002583282 | 7.05026E-07 | 0.000235009 | 0.002184513 | — | — | 2.0625E-05 | 0.00014243 | 0.002583282 | 7.05026E-07 |
| Thallium | Tl | — | 6.19507E-05 | 0.000300018 | 0.005066098 | 3.30753E-05 | 5.86335E-05 | 0.004611753 | — | — | 6.19507E-05 | 0.000300685 | 0.005066399 | 3.30773E-05 | 5.86371E-05 | 0.004612031 | — | — | 6.19507E-05 | 0.000300703 | 0.005066399 | 3.30773E-05 |
| Uranium | U | — | 0.000994411 | 0.000600055 | 0.011153129 | 0.000330472 | 1.17167E-05 | 0.009215671 | — | — | 0.000994411 | 0.000600859 | 0.011154054 | 0.000330502 | 1.17178E-05 | 0.00921651 | — | — | 0.000994411 | 0.000600913 | 0.011154054 | 0.000330502 |
| Zinc | Zn | — | 0.001053914 | 0.080791045 | 1.636932467 | 0.557449617 | 0.133787908 | 0.863540134 | — | — | 0.001071228 | 0.081083581 | 1.637413047 | 0.557619283 | 0.133828628 | 0.863802963 | — | — | 0.001053914 | 0.081108259 | 1.638622814 | 0.557619283 |

## Table VI-8A Estimated Ecological Exposure Dose: Ruffed Grouse

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Ruffed Grouse from the consumption of Plant_2 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of — (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Water (dry) (mg/kg/d) | Dose to Ruffed Grouse from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.013355672 | 0.003217503 | — | — | 0.049718278 | 0.008094346 |
| Antimony | Sb | 0.00016304 | 0.004528895 | — | — | 0.00017521 | 0.000603853 |
| Arsenic | As | 0.000668178 | 0.007835909 | — | — | 0.000219747 | 0.004049565 |
| Cadmium | Cd | 0.000269588 | 0.057641241 | — | — | 1.00659E-05 | 0.000449313 |
| Cobalt | Co | 0.000821022 | 0.012520582 | — | — | 0.000124736 | 0.013683696 |
| Copper | Cu | 0.062126235 | 0.167297076 | — | — | 0.000288539 | 0.029583922 |
| Cyanide | CN- | — | — | — | — | 0.000259963 | — |
| Lead | Pb | 0.000186793 | 0.283755073 | — | — | 0.000260037 | 0.011320769 |
| Mercury | Hg | 7.7901E-05 | 0.001852273 | — | — | 3.09821E-06 | 4.72127E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 3.09821E-06 | — |
| Silver | Ag | 0.000235009 | 0.002184513 | — | — | 2.0625E-05 | 0.00014243 |
| Thallium | Tl | 5.86371E-05 | 0.004612031 | — | — | 6.19507E-05 | 0.000300703 |
| Uranium | U | 1.17178E-05 | 0.00921651 | — | — | 0.000994411 | 0.000600913 |
| Zinc | Zn | 0.133828628 | 0.863802963 | — | — | 0.002263681 | 0.081108259 |

## Table VI-8B Estimated Ecological Risk: Ruffed Grouse

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000453337 | 0.000453337 | 5.498597153 | 5.498597153 | 5.498727367 | 5.498727367 | 0.000130214 | 0.000130214 | 5.498597153 | 5.498597153 | 0.044498797 | 0.044498797 | 5.499050489 | 5.499050489 | 5.498727367 | 5.498727367 | 5.499050489 | 5.499050489 | 0.044498797 | 0.044498797 | 0.000453337 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.006800025 | 0.002260549 | 0.038837684 | 0.012910906 | 0.039362914 | 0.013085509 | 0.00052523 | 0.000174603 | 0.038837684 | 0.012910906 | 0.000477393 | 0.000158701 | 0.038927012 | 0.012940601 | 0.039362914 | 0.013085509 | 0.038927012 | 0.012940601 | 0.00718809 | 0.002389554 | 0.006800025 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.00453868 | 0.004428122 | 0.047702269 | 0.046540291 | 0.047739999 | 0.046577102 | 3.77301E-05 | 3.6811E-05 | 0.047702269 | 0.046540291 | 0.000398103 | 0.000388405 | 0.047720449 | 0.046558028 | 0.047739999 | 0.046577102 | 0.047720449 | 0.046558028 | 0.004918603 | 0.004798791 | 0.00453868 |
| Copper | Cu | 0.012428661 | 0.009421727 | 0.019830512 | 0.015032808 | 0.019858003 | 0.015053647 | 2.74908E-05 | 2.08398E-05 | 0.019830512 | 0.015032808 | 0.000238365 | 0.000180696 | 0.019836389 | 0.015037262 | 0.019858003 | 0.015053647 | 0.019836389 | 0.015037262 | 0.01266115 | 0.009597968 | 0.012428661 |
| Cyanide | CN- | — | 0.001237962 | — | — | — | 0.341816341 | — | 0.341816341 | — | — | — | 0.001709082 | — | 0.001237962 | — | 0.341816341 | — | 0.001237962 | — | 0.001709082 | — |
| Lead | Pb | 0.187680831 | 0.092702956 | 2.910923414 | 1.437819747 | 2.914534505 | 1.439603407 | 0.00361109 | 0.00178366 | 2.910923414 | 1.437819747 | 0.041978105 | 0.02073464 | 2.911048724 | 1.437881643 | 2.914534505 | 1.439603407 | 2.911048724 | 1.437881643 | 0.229533625 | 0.1133757 | 0.187680831 |
| Mercury | Hg | 0.007266381 | 0.003633191 | 0.050833981 | 0.025416991 | 0.051121107 | 0.025560553 | 0.000287126 | 0.000143563 | 0.050833981 | 0.025416991 | 0.000444955 | 0.000222478 | 0.050841874 | 0.025420937 | 0.051121107 | 0.025560553 | 0.050841874 | 0.025420937 | 0.007703444 | 0.003851722 | 0.007266381 |
| Methyl-Mercury | Me-Hg | 0.000554977 | 5.54977E-05 | — | — | 0.020188528 | 0.002018853 | 0.020188528 | 0.002018853 | — | — | 0.00224317 | 0.000224317 | 0.000554977 | 5.54977E-05 | 0.020188528 | 0.002018853 | 0.000554977 | 5.54977E-05 | 0.00224317 | 0.000224317 | 0.000554977 |
| Silver | Ag | 0.001264512 | 0.000126451 | 0.013624905 | 0.001362491 | 0.013626682 | 0.001362668 | 1.77677E-06 | 1.77677E-07 | 0.013624905 | 0.001362491 | 0.00027502 | 2.7502E-05 | 0.013635116 | 0.001363512 | 0.013626682 | 0.001362668 | 0.013635116 | 0.001363512 | 0.001529321 | 0.000152932 | 0.001264512 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.112449416 | 0.012446691 | 0.741164674 | 0.082037311 | 0.741362691 | 0.082059229 | 0.000198018 | 2.1918E-05 | 0.741164674 | 0.082037311 | 0.009312723 | 0.001030798 | 0.741237357 | 0.082045356 | 0.741362691 | 0.082059229 | 0.741237357 | 0.082045356 | 0.121689455 | 0.013469444 | 0.112449416 |

## Table VI-8B Estimated Ecological Risk: Ruffed Grouse

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000453337 | 0.00024916 | 0.00024916 | 0.002004278 | 0.002004278 | 0.002253984 | 0.002253984 | 0.002707204 | 0.002707204 | 0.000702497 | 0.000702497 | 0.002457687 | 0.002457687 | 0.002707321 | 0.002707321 | 0.002707204 | 0.002707204 | 0.000453337 | 0.000453337 | 0.00024916 | 0.00024916 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.002260549 | 1.79998E-06 | 5.98371E-07 | 0.00074828 | 0.000248753 | 2.2117E-05 | 7.3524E-06 | 0.000111445 | 3.7048E-05 | 0.006801825 | 0.002261147 | 0.007458977 | 0.002479606 | 0.006822142 | 0.002267901 | 0.006822142 | 0.002267901 | 0.006800025 | 0.002260549 | 1.79998E-06 | 5.98371E-07 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.004428122 | 2.18857E-06 | 2.13526E-06 | 1.75601E-05 | 1.71324E-05 | 1.97537E-05 | 1.92726E-05 | 3.55883E-05 | 3.47214E-05 | 0.004540868 | 0.004430257 | 0.004555136 | 0.004444177 | 0.004558433 | 0.004447395 | 0.004556645 | 0.00444565 | 0.00453868 | 0.004428122 | 2.18857E-06 | 2.13526E-06 |
| Copper | Cu | 0.009421727 | 9.72838E-07 | 7.37474E-07 | 1.61654E-05 | 1.22544E-05 | 1.19042E-05 | 9.02417E-06 | 1.80434E-05 | 1.3678E-05 | 0.012429634 | 0.009422464 | 0.01243959 | 0.009430012 | 0.012440565 | 0.009430751 | 0.012440828 | 0.00943095 | 0.012428661 | 0.009421727 | 9.72838E-07 | 7.37474E-07 |
| Cyanide | CN- | 0.001237962 | — | — | — | 0.001104896 | — | — | — | 0.001237921 | — | 0.001237962 | — | 0.001237962 | — | 0.001237962 | — | 0.001237921 | — | 0.001237962 | — | — |
| Lead | Pb | 0.092702956 | 0.000133025 | 6.57062E-05 | 0.002181852 | 0.001077703 | 0.002181956 | 0.001077754 | 0.002341488 | 0.001156553 | 0.187813856 | 0.092768662 | 0.189737372 | 0.093718763 | 0.189862786 | 0.09378071 | 0.189897008 | 0.093797613 | 0.187680831 | 0.092702956 | 0.000133025 | 6.57062E-05 |
| Mercury | Hg | 0.003633191 | 2.34685E-06 | 1.17342E-06 | 1.85727E-05 | 9.28636E-06 | 2.09251E-05 | 1.04626E-05 | 2.781E-05 | 1.3905E-05 | 0.007268728 | 0.003634364 | 0.007284955 | 0.003642477 | 0.007287306 | 0.003643653 | 0.007286298 | 0.003643149 | 0.007266381 | 0.003633191 | 2.34685E-06 | 1.17342E-06 |
| Methyl-Mercury | Me-Hg | 5.54977E-05 | — | — | — | — | — | — | 0.000484096 | 4.84096E-05 | 0.000554977 | 5.54977E-05 | 0.000555032 | 5.55032E-05 | 0.000554977 | 5.54977E-05 | 0.000484096 | 4.84096E-05 | 0.000554977 | 5.54977E-05 | — | — |
| Silver | Ag | 0.000126451 | 6.24888E-07 | 6.24888E-08 | 1.3714E-05 | 1.3714E-06 | 1.43403E-05 | 1.43403E-06 | 2.45508E-05 | 2.45508E-06 | 0.001265137 | 0.000126514 | 0.001278226 | 0.000127823 | 0.001278852 | 0.000127885 | 0.001278852 | 0.000127885 | 0.001264512 | 0.000126451 | 6.24888E-07 | 6.24888E-08 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.012446691 | 3.42564E-05 | 3.79174E-06 | 0.000515162 | 5.70217E-05 | 0.000475622 | 5.26451E-05 | 0.000631737 | 6.99251E-05 | 0.112483673 | 0.012450483 | 0.112891894 | 0.012495668 | 0.112925038 | 0.012499336 | 0.11300847 | 0.012508571 | 0.112449416 | 0.012446691 | 3.42564E-05 | 3.79174E-06 |

## Table VI-8B Estimated Ecological Risk: Ruffed Grouse

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) | Risk to Ruffed Grouse (NOAELb) | Risk to Ruffed Grouse (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.002004278 | 0.002004278 | 0.002253984 | 0.002253984 | 0.002707204 | 0.002707204 | 0.000702497 | 0.000702497 | 0.002457687 | 0.002457687 | 0.002707321 | 0.002707321 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.00074828 | 0.000248753 | 2.2117E-05 | 7.3524E-06 | 0.000111445 | 3.7048E-05 | 0.006801825 | 0.002261147 | 0.007458977 | 0.002479606 | 0.006822142 | 0.002267901 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 1.75601E-05 | 1.71324E-05 | 1.97537E-05 | 1.92726E-05 | 3.55883E-05 | 3.47214E-05 | 0.004540868 | 0.004430257 | 0.004555136 | 0.004444177 | 0.004558433 | 0.004447395 |
| Copper | Cu | 1.61654E-05 | 1.22544E-05 | 1.19042E-05 | 9.02417E-06 | 1.80434E-05 | 1.3678E-05 | 0.012429634 | 0.009422464 | 0.01243959 | 0.009430012 | 0.012440565 | 0.009430751 |
| Cyanide | CN- | — | 0.001104896 | — | — | — | 0.001237921 | — | 0.001237962 | — | 0.001237962 | — | 0.001237962 |
| Lead | Pb | 0.002181852 | 0.001077703 | 0.002181956 | 0.001077754 | 0.002341488 | 0.001156553 | 0.187813856 | 0.092768662 | 0.189737372 | 0.093718763 | 0.189862786 | 0.09378071 |
| Mercury | Hg | 1.85727E-05 | 9.28636E-06 | 2.09251E-05 | 1.04626E-05 | 2.781E-05 | 1.3905E-05 | 0.007268728 | 0.003634364 | 0.007284955 | 0.003642477 | 0.007287306 | 0.003643653 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000484096 | 4.84096E-05 | 0.000554977 | 5.54977E-05 | 0.000555032 | 5.55032E-05 | 0.000554977 | 5.54977E-05 |
| Silver | Ag | 1.3714E-05 | 1.3714E-06 | 1.43403E-05 | 1.43403E-06 | 2.45508E-05 | 2.45508E-06 | 0.001265137 | 0.000126514 | 0.001278226 | 0.000127823 | 0.001278852 | 0.000127885 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000515162 | 5.70217E-05 | 0.000475622 | 5.26451E-05 | 0.000631737 | 6.99251E-05 | 0.112483673 | 0.012450483 | 0.112891894 | 0.012495668 | 0.112925038 | 0.012499336 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 27.75095717 | — | 27.7124681 | — | — | — | 0.03848907 | — | 40.60306069 | 4.525163805 | — | 19.62275577 | — | — | — | 16.45514111 | 40.61411611 | 4.525163805 | — | 19.62275577 | — |
| Antimony | Sb | 0.022281873 | 0.0000225 | 0.01037377 | 0.01125 | — | — | 0.000135603 | 0.0005 | 0.110538714 | 0.000211265 | — | 0.105632664 | — | — | — | 0.004694785 | 0.136741992 | 0.000211265 | 0.026092168 | 0.105632664 | — |
| Arsenic | As | 0.025906749 | 9.24977E-05 | 0.002755207 | 0.01952542 | — | — | 0.000170072 | 0.003363552 | 0.133003636 | 0.000535324 | — | 0.113001992 | — | — | — | 0.019466321 | 0.156456791 | 0.000535324 | 0.022453167 | 0.113001992 | — |
| Cadmium | Cd | 0.177859452 | 3.73616E-05 | 0.033653665 | 0.143790874 | — | — | 3.93605E-06 | 0.000373616 | 0.426996507 | 0.000110632 | — | 0.425779559 | — | — | — | 0.001106316 | 0.471095561 | 0.000110632 | 0.043987945 | 0.425779559 | — |
| Cobalt | Co | 1.199129248 | 0.000113535 | 1.156389905 | 0.031165269 | — | — | 0.000107072 | 0.011353468 | 0.44987412 | 0.001198067 | — | 0.328869363 | — | — | — | 0.11980669 | 0.450096339 | 0.001198067 | — | 0.328869363 | — |
| Copper | Cu | 0.836085694 | 0.008620383 | 0.384779591 | 0.41784229 | — | — | 0.000213764 | 0.024629666 | 0.720079476 | 0.013760733 | — | 0.667002364 | — | — | — | 0.039316379 | 1.063968005 | 0.013760733 | 0.342888541 | 0.667002364 | — |
| Cyanide | CN- | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | — | — | — | — | — | — | — | — | 0.184851927 | — | 0.129297049 | — | — |
| Lead | Pb | 0.952608347 | 2.56451E-05 | 0.241869316 | 0.701229819 | — | — | 0.000158083 | 0.009325485 | 11.02845022 | 0.00039802 | — | 10.88331761 | — | — | — | 0.144734591 | 11.29014796 | 0.00039802 | 0.257142238 | 10.88331761 | — |
| Mercury | Hg | 0.0066494 | 1.07885E-05 | 0.001979261 | 0.004617371 | — | — | 2.74894E-06 | 3.92308E-05 | 0.032687525 | 7.55559E-05 | — | 0.03233722 | — | — | — | 0.000274749 | 0.032787523 | 7.55559E-05 | — | 0.03233722 | — |
| Methyl-Mercury | Me-Hg | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 | — | — | — | — | — | — | — | — | — | 9.99988E-05 | — | — | — | — |
| Silver | Ag | 0.017058382 | 3.22712E-05 | 0.011493248 | 0.005399551 | — | — | 1.59626E-05 | 0.00011735 | 0.060278115 | 0.000350547 | — | 0.058652852 | — | — | — | 0.001274716 | 0.060280893 | 0.000350547 | — | 0.058652852 | — |
| Thallium | Tl | 0.046331022 | 0.000008125 | 0.034521825 | 0.011503125 | — | — | 4.79464E-05 | 0.00025 | 0.014043232 | 9.70146E-06 | — | 0.013735024 | — | — | — | 0.000298506 | 0.049709464 | 9.70146E-06 | — | 0.013735024 | — |
| Uranium | U | 0.578409938 | 0.000001625 | 0.554132444 | 0.02300625 | — | — | 0.000769619 | 0.0005 | 0.044066999 | 3.04617E-06 | — | 0.043126671 | — | — | — | 0.000937282 | 0.044344773 | 3.04617E-06 | — | 0.043126671 | — |
| Zinc | Zn | 2.530681433 | 0.018508972 | 0.293645373 | 2.150406061 | — | — | 0.000815672 | 0.067305354 | 14.74867188 | 0.122073281 | — | 14.18269575 | — | — | — | 0.443902841 | 15.04936357 | 0.122073281 | 0.298469495 | 14.18269575 | — |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| Phase | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.011055421 | 16.45514111 | 40.60306069 | 4.525163805 | — | 19.62275577 | — | — | — | 16.45514111 | 28.03776462 | 0.036580652 | 27.70536979 | 0.158627009 | — | — | 0.004166616 | 0.133020552 | 68.35401785 | 4.525163805 |
| Antimony | Sb | — | 0.00011111 | 0.004694785 | 0.110538714 | 0.000211265 | — | 0.105632664 | — | — | — | 0.004694785 | 0.011891219 | 2.7755E-06 | 0.01037377 | 0.001387751 | — | — | 6.52451E-05 | 6.16778E-05 | 0.121048088 | 0.000211265 |
| Arsenic | As | — | 0.000999988 | 0.019466321 | 0.133003636 | 0.000535324 | — | 0.113001992 | — | — | — | 0.019466321 | 0.00431586 | 5.90739E-06 | 0.002755207 | 0.001246997 | — | — | 9.29342E-05 | 0.000214814 | 0.135928916 | 0.000535324 |
| Cadmium | Cd | — | 0.00011111 | 0.001106316 | 0.426996507 | 0.000110632 | — | 0.425779559 | — | — | — | 0.001106316 | 0.072626112 | 1.55602E-06 | 0.066609339 | 0.005988546 | — | — | 1.1111E-05 | 1.55602E-05 | 0.460654107 | 0.000110632 |
| Cobalt | Co | — | 0.00022222 | 0.11980669 | 0.44987412 | 0.001198067 | — | 0.328869363 | — | — | — | 0.11980669 | 1.010959434 | 9.78534E-06 | 1.007235039 | 0.002686076 | — | — | 4.99994E-05 | 0.000978534 | 1.606371097 | 0.001198067 |
| Copper | Cu | — | 0.000999988 | 0.039316379 | 0.720079476 | 0.013760733 | — | 0.667002364 | — | — | — | 0.039316379 | 0.410624694 | 0.000160107 | 0.401968766 | 0.007760599 | — | — | 0.000277774 | 0.000457448 | 1.10507283 | 0.013760733 |
| Cyanide | CN- | — | 0.055554878 | — | — | — | — | — | — | — | — | — | 0.1451416 | — | 0.144863825 | — | — | — | 0.000277774 | — | 0.145069887 | — |
| Lead | Pb | — | 0.0045555 | 0.144734591 | 11.02845022 | 0.00039802 | — | 10.88331761 | — | — | — | 0.144734591 | 0.466406449 | 5.7097E-06 | 0.307922828 | 0.156123883 | — | — | 0.000277774 | 0.002076254 | 11.27047762 | 0.00039802 |
| Mercury | Hg | — | 9.99988E-05 | 0.000274749 | 0.032687525 | 7.55559E-05 | — | 0.03233722 | — | — | — | 0.000274749 | 0.002003185 | 6.13931E-07 | 0.001726471 | 0.000262757 | — | — | 1.1111E-05 | 2.23248E-06 | 0.034669535 | 7.55559E-05 |
| Methyl-Mercury | Me-Hg | — | 9.99988E-05 | — | — | — | — | — | — | — | — | — | 0.001737582 | — | 0.001726471 | — | — | — | 1.1111E-05 | — | 0.00198201 | — |
| Silver | Ag | — | 2.77774E-06 | 0.001274716 | 0.060278115 | 0.000350547 | — | 0.058652852 | — | — | — | 0.001274716 | 0.012699931 | 6.98557E-06 | 0.011493248 | 0.001168812 | — | — | 5.48358E-06 | 2.54021E-05 | 0.071787325 | 0.000350547 |
| Thallium | Tl | — | 0.035666232 | 0.000298506 | 0.014043232 | 9.70146E-06 | — | 0.013735024 | — | — | — | 0.000298506 | 0.035054428 | 3.56423E-07 | 0.034521825 | 0.000504613 | — | — | 1.66665E-05 | 1.09669E-05 | 0.048613004 | 9.70146E-06 |
| Uranium | U | — | 0.000277774 | 0.000937282 | 0.044066999 | 3.04617E-06 | — | 0.043126671 | — | — | — | 0.000937282 | 0.555094618 | 4.73096E-08 | 0.554132444 | 0.000669795 | — | — | 0.000277774 | 1.45568E-05 | 0.598969062 | 3.04617E-06 |
| Zinc | Zn | — | 0.002222195 | 0.443902841 | 14.74867188 | 0.122073281 | — | 14.18269575 | — | — | — | 0.443902841 | 0.814743139 | 0.001509388 | 0.630714969 | 0.175363452 | — | — | 0.001666646 | 0.005488684 | 15.04313292 | 0.122073281 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 27.7124681 | 19.62275577 | — | — | 0.03848907 | 16.45514111 | 68.33101656 | 4.525163805 | 27.71690045 | 19.62275577 | — | — | 0.011055421 | 16.45514111 | 68.35401785 | 4.525163805 | 27.7124681 | 19.62275577 | — | — | 0.03848907 |
| Antimony | Sb | 0.01037377 | 0.105632664 | — | — | 0.000135603 | 0.004694785 | 0.136741992 | 0.000211265 | 0.026092168 | 0.105632664 | — | — | 0.00011111 | 0.004694785 | 0.121048088 | 0.000211265 | 0.01037377 | 0.105632664 | — | — | 0.000135603 |
| Arsenic | As | 0.002755207 | 0.113001992 | — | — | 0.000170072 | 0.019466321 | 0.156456791 | 0.000535324 | 0.022453167 | 0.113001992 | — | — | 0.000999988 | 0.019466321 | 0.135928916 | 0.000535324 | 0.002755207 | 0.113001992 | — | — | 0.000170072 |
| Cadmium | Cd | 0.033653665 | 0.425779559 | — | — | 3.93605E-06 | 0.001106316 | 0.471095561 | 0.000110632 | 0.043987945 | 0.425779559 | — | — | 0.00011111 | 0.001106316 | 0.460654107 | 0.000110632 | 0.033653665 | 0.425779559 | — | — | 3.93605E-06 |
| Cobalt | Co | 1.156389905 | 0.328869363 | — | — | 0.000107072 | 0.11980669 | 1.536254101 | 0.001198067 | 1.086157762 | 0.328869363 | — | — | 0.00022222 | 0.11980669 | 1.606371097 | 0.001198067 | 1.156389905 | 0.328869363 | — | — | 0.000107072 |
| Copper | Cu | 0.384779591 | 0.667002364 | — | — | 0.000213764 | 0.039316379 | 1.105859054 | 0.013760733 | 0.384779591 | 0.667002364 | — | — | 0.000999988 | 0.039316379 | 1.10507283 | 0.013760733 | 0.384779591 | 0.667002364 | — | — | 0.000213764 |
| Cyanide | CN- | 0.144868683 | — | — | — | 0.000201204 | — | 0.200423562 | — | 0.144868683 | — | — | — | 0.055554878 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 |
| Lead | Pb | 0.241869316 | 10.88331761 | — | — | 0.000158083 | 0.144734591 | 11.29014796 | 0.00039802 | 0.257142238 | 10.88331761 | — | — | 0.0045555 | 0.144734591 | 11.27047762 | 0.00039802 | 0.241869316 | 10.88331761 | — | — | 0.000158083 |
| Mercury | Hg | 0.001979261 | 0.03233722 | — | — | 2.74894E-06 | 0.000274749 | 0.034766978 | 7.55559E-05 | 0.001979455 | 0.03233722 | — | — | 9.99988E-05 | 0.000274749 | 0.034669535 | 7.55559E-05 | 0.001979261 | 0.03233722 | — | — | 2.74894E-06 |
| Methyl-Mercury | Me-Hg | 0.001979261 | — | — | — | 2.74894E-06 | — | 0.002079454 | — | 0.001979455 | — | — | — | 9.99988E-05 | — | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 |
| Silver | Ag | 0.011493248 | 0.058652852 | — | — | 1.59626E-05 | 0.001274716 | 0.07177414 | 0.000350547 | 0.011493248 | 0.058652852 | — | — | 2.77774E-06 | 0.001274716 | 0.071787325 | 0.000350547 | 0.011493248 | 0.058652852 | — | — | 1.59626E-05 |
| Thallium | Tl | 0.034521825 | 0.013735024 | — | — | 4.79464E-05 | 0.000298506 | 0.084231289 | 9.70146E-06 | 0.034521825 | 0.013735024 | — | — | 0.035666232 | 0.000298506 | 0.048613004 | 9.70146E-06 | 0.034521825 | 0.013735024 | — | — | 4.79464E-05 |
| Uranium | U | 0.554132444 | 0.043126671 | — | — | 0.000769619 | 0.000937282 | 0.598477218 | 3.04617E-06 | 0.554132444 | 0.043126671 | — | — | 0.000277774 | 0.000937282 | 0.598969062 | 3.04617E-06 | 0.554132444 | 0.043126671 | — | — | 0.000769619 |
| Zinc | Zn | 0.293645373 | 14.18269575 | — | — | 0.000815672 | 0.443902841 | 15.04936357 | 0.122073281 | 0.298469495 | 14.18269575 | — | — | 0.002222195 | 0.443902841 | 15.04313292 | 0.122073281 | 0.293645373 | 14.18269575 | — | — | 0.000815672 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 16.45514111 | 28.03776462 | 0.036580652 | 27.70536979 | 0.158627009 | — | — | 0.004166616 | 0.133020552 | 27.75095717 | — | 27.7124681 | — | — | — | 0.03848907 | — | 0.001839864 | 0.000205051 | — | 0.000889174 |
| Antimony | Sb | 0.004694785 | 0.023663719 | 2.52755E-05 | 0.01037377 | 0.012637751 | — | — | 6.52451E-05 | 0.000561678 | 0.022281873 | 0.0000225 | 0.01037377 | 0.01125 | — | — | 0.000135603 | 0.0005 | 5.07925E-06 | 9.70764E-09 | — | 4.85382E-06 |
| Arsenic | As | 0.019466321 | 0.027297329 | 9.84051E-05 | 0.002755207 | 0.020772416 | — | — | 9.29342E-05 | 0.003578366 | 0.025906749 | 9.24977E-05 | 0.002755207 | 0.01952542 | — | — | 0.000170072 | 0.003363552 | 6.16421E-06 | 2.48102E-08 | — | 5.23721E-06 |
| Cadmium | Cd | 0.001106316 | 0.216827963 | 3.89176E-05 | 0.066609339 | 0.149779419 | — | — | 1.1111E-05 | 0.000389176 | 0.177859452 | 3.73616E-05 | 0.033653665 | 0.143790874 | — | — | 3.93605E-06 | 0.000373616 | 2.02106E-05 | 5.2364E-09 | — | 2.0153E-05 |
| Cobalt | Co | 0.11980669 | 1.08898454 | 0.00012332 | 1.042627873 | 0.033851345 | — | — | 4.99994E-05 | 0.012332002 | 1.199129248 | 0.000113535 | 1.156389905 | 0.031165269 | — | — | 0.000107072 | 0.011353468 | 2.06401E-05 | 5.49671E-08 | — | 1.50885E-05 |
| Copper | Cu | 0.039316379 | 0.861717034 | 0.00878049 | 0.401968766 | 0.425602889 | — | — | 0.000277774 | 0.025087114 | 0.836085694 | 0.008620383 | 0.384779591 | 0.41784229 | — | — | 0.000213764 | 0.024629666 | 3.53254E-05 | 6.75069E-07 | — | 3.27216E-05 |
| Cyanide | CN- | — | 0.1451416 | — | 0.144863825 | — | — | — | 0.000277774 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | — | — | — | — |
| Lead | Pb | 0.144734591 | 1.176987397 | 3.13548E-05 | 0.307922828 | 0.857353701 | — | — | 0.000277774 | 0.011401738 | 0.952608347 | 2.56451E-05 | 0.241869316 | 0.701229819 | — | — | 0.000158083 | 0.009325485 | 0.000503984 | 1.81889E-08 | — | 0.000497352 |
| Mercury | Hg | 0.000274749 | 0.006670575 | 1.14024E-05 | 0.001726471 | 0.004880128 | — | — | 1.1111E-05 | 4.14633E-05 | 0.0066494 | 1.07885E-05 | 0.001979261 | 0.004617371 | — | — | 2.74894E-06 | 3.92308E-05 | 1.50908E-06 | 3.48818E-09 | — | 1.49291E-06 |
| Methyl-Mercury | Me-Hg | — | 0.001737582 | — | 0.001726471 | — | — | — | 1.1111E-05 | — | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 | — | — | — | — | — |
| Silver | Ag | 0.001274716 | 0.018249103 | 3.92567E-05 | 0.011493248 | 0.006568363 | — | — | 5.48358E-06 | 0.000142752 | 0.017058382 | 3.22712E-05 | 0.011493248 | 0.005399551 | — | — | 1.59626E-05 | 0.00011735 | 2.76457E-06 | 1.60774E-08 | — | 2.69003E-06 |
| Thallium | Tl | 0.000298506 | 0.046815678 | 8.48142E-06 | 0.034521825 | 0.012007738 | — | — | 1.66665E-05 | 0.000260967 | 0.046331022 | 0.000008125 | 0.034521825 | 0.011503125 | — | — | 4.79464E-05 | 0.00025 | 7.06643E-07 | 4.88169E-10 | — | 6.91134E-07 |
| Uranium | U | 0.000937282 | 0.578602493 | 1.67231E-06 | 0.554132444 | 0.023676045 | — | — | 0.000277774 | 0.000514557 | 0.578409938 | 0.000001625 | 0.554132444 | 0.02300625 | — | — | 0.000769619 | 0.0005 | 2.13733E-06 | 1.47745E-10 | — | 2.09172E-06 |
| Zinc | Zn | 0.443902841 | 3.050963527 | 0.02001836 | 0.630714969 | 2.325769513 | — | — | 0.001666646 | 0.072794038 | 2.530681433 | 0.018508972 | 0.293645373 | 2.150406061 | — | — | 0.000815672 | 0.067305354 | 0.000681679 | 5.64219E-06 | — | 0.000655519 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.000745639 | 0.014800103 | 0.001649454 | — | 0.007152633 | — | — | — | 0.005998015 | 0.016644 | 0.001854954 | — | 0.008043757 | — | — | — | 0.006745289 | 27.760493 |
| Antimony | Sb | — | — | — | 2.15725E-07 | 0.026503739 | 1.34744E-07 | 0.026092168 | 6.73721E-05 | — | — | 0.00034107 | 2.99431E-06 | 7.55921E-05 | 1.44474E-07 | — | 7.22371E-05 | — | — | — | 3.21054E-06 | 0.010584966 |
| Arsenic | As | — | — | — | 9.02189E-07 | 0.023908711 | 2.79982E-07 | 0.022453167 | 5.91018E-05 | — | — | 0.001385981 | 1.01812E-05 | 7.57419E-05 | 3.04852E-07 | — | 6.43515E-05 | — | — | — | 1.10855E-05 | 0.003001022 |
| Cadmium | Cd | — | — | — | 5.2364E-08 | 0.044285947 | 7.58773E-08 | 0.043987945 | 0.000292023 | — | — | 5.14473E-06 | 7.58773E-07 | 0.000313121 | 8.11272E-08 | — | 0.000312228 | — | — | — | 8.11272E-07 | 0.06693025 |
| Cobalt | Co | — | — | — | 5.49671E-06 | 0.000165607 | 4.41032E-07 | — | 0.000121063 | — | — | — | 4.41032E-05 | 0.000186295 | 4.96125E-07 | — | 0.000136186 | — | — | — | 4.96125E-05 | 1.007514595 |
| Copper | Cu | — | — | — | 1.92877E-06 | 0.343475868 | 7.58354E-06 | 0.342888541 | 0.000367585 | — | — | 0.000190491 | 2.16672E-05 | 0.000432263 | 8.26055E-06 | — | 0.000400401 | — | — | — | 2.36016E-05 | 0.402624342 |
| Cyanide | CN- | — | — | — | — | 0.129476626 | — | 0.129297049 | — | — | — | 0.000179577 | — | — | — | — | — | — | — | — | — | 0.145065023 |
| Lead | Pb | — | — | — | 6.61416E-06 | 0.265071827 | 2.80116E-07 | 0.257142238 | 0.007659384 | — | — | 0.000168065 | 0.00010186 | 0.008266652 | 2.98346E-07 | — | 0.008157864 | — | — | — | 0.000108489 | 0.316390734 |
| Mercury | Hg | — | — | — | 1.26843E-08 | 1.19427E-05 | 2.76051E-08 | — | 1.18147E-05 | — | — | — | 1.00382E-07 | 1.34554E-05 | 3.11015E-08 | — | 1.33112E-05 | — | — | — | 1.13096E-07 | 0.001742324 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.001728869 |
| Silver | Ag | — | — | — | 5.84631E-08 | 6.06724E-05 | 3.5284E-07 | — | 5.90365E-05 | — | — | — | 1.28305E-06 | 6.34433E-05 | 3.68954E-07 | — | 6.17327E-05 | — | — | — | 1.34165E-06 | 0.011572654 |
| Thallium | Tl | — | — | — | 1.50206E-08 | 2.68478E-05 | 1.85472E-08 | — | 2.62586E-05 | — | — | — | 5.70683E-07 | 2.75566E-05 | 1.90369E-08 | — | 2.69518E-05 | — | — | — | 5.8575E-07 | 0.034597328 |
| Uranium | U | — | — | — | 4.54599E-08 | 3.36453E-05 | 2.32576E-09 | — | 3.29274E-05 | — | — | — | 7.15618E-07 | 3.57886E-05 | 2.47391E-09 | — | 3.50249E-05 | — | — | — | 7.61205E-07 | 0.554937852 |
| Zinc | Zn | — | — | — | 2.0517E-05 | 0.308079817 | 7.26815E-05 | 0.298469495 | 0.008444273 | — | — | 0.000829072 | 0.000264296 | 0.009464544 | 7.83371E-05 | — | 0.009101345 | — | — | — | 0.000284862 | 0.641931477 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001854954 | 27.70536979 | 0.008043757 | — | — | 0.038479211 | 0.006745289 | 27.75279703 | 0.000205051 | 27.7124681 | 0.000889174 | — | — | 0.03848907 | 0.000745639 | 27.77019578 | 0.001649454 | 27.71690045 | 0.007152633 | — | — |
| Antimony | Sb | 1.44474E-07 | 0.01037377 | 7.22371E-05 | — | — | 0.000135603 | 3.21054E-06 | 0.022286953 | 2.25097E-05 | 0.01037377 | 0.011254854 | — | — | 0.000135603 | 0.000500216 | 0.038276239 | 2.26347E-05 | 0.026092168 | 0.011317372 | — | — |
| Arsenic | As | 3.04852E-07 | 0.002755207 | 6.43515E-05 | — | — | 0.000170072 | 1.10855E-05 | 0.025912913 | 9.25225E-05 | 0.002755207 | 0.019530657 | — | — | 0.000170072 | 0.003364454 | 0.04689018 | 9.27777E-05 | 0.022453167 | 0.019584522 | — | — |
| Cadmium | Cd | 8.11272E-08 | 0.066609339 | 0.000312228 | — | — | 7.79047E-06 | 8.11272E-07 | 0.177879663 | 3.73669E-05 | 0.033653665 | 0.143811027 | — | — | 3.93605E-06 | 0.000373669 | 0.188487799 | 3.74375E-05 | 0.043987945 | 0.144082897 | — | — |
| Cobalt | Co | 4.96125E-07 | 1.007235039 | 0.000136186 | — | — | 9.32614E-05 | 4.96125E-05 | 1.199149888 | 0.00011359 | 1.156389905 | 0.031180357 | — | — | 0.000107072 | 0.011358964 | 1.129056209 | 0.000113976 | 1.086157762 | 0.031286332 | — | — |
| Copper | Cu | 8.26055E-06 | 0.401968766 | 0.000400401 | — | — | 0.000223313 | 2.36016E-05 | 0.836121019 | 0.008621058 | 0.384779591 | 0.417875012 | — | — | 0.000213764 | 0.024631595 | 0.83648253 | 0.008627967 | 0.384779591 | 0.418209875 | — | — |
| Cyanide | CN- | — | 0.144863825 | — | — | — | 0.000201197 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | 0.145069887 | — | 0.144868683 | — | — | — |
| Lead | Pb | 2.98346E-07 | 0.307922828 | 0.008157864 | — | — | 0.000201254 | 0.000108489 | 0.953112331 | 2.56633E-05 | 0.241869316 | 0.70172717 | — | — | 0.000158083 | 0.009332099 | 0.975652776 | 2.59252E-05 | 0.257142238 | 0.708889203 | — | — |
| Mercury | Hg | 3.11015E-08 | 0.001726471 | 1.33112E-05 | — | — | 2.39785E-06 | 1.13096E-07 | 0.006650909 | 1.0792E-05 | 0.001979261 | 0.004618864 | — | — | 2.74894E-06 | 3.92435E-05 | 0.006661537 | 1.08161E-05 | 0.001979455 | 0.004629185 | — | — |
| Methyl-Mercury | Me-Hg | — | 0.001726471 | — | — | — | 2.39785E-06 | — | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 | — | 0.001982204 | — | 0.001979455 | — | — | — |
| Silver | Ag | 3.68954E-07 | 0.011493248 | 6.17327E-05 | — | — | 1.59626E-05 | 1.34165E-06 | 0.017061146 | 3.22872E-05 | 0.011493248 | 0.005402241 | — | — | 1.59626E-05 | 0.000117408 | 0.017119054 | 3.2624E-05 | 0.011493248 | 0.005458587 | — | — |
| Thallium | Tl | 1.90369E-08 | 0.034521825 | 2.69518E-05 | — | — | 4.79464E-05 | 5.8575E-07 | 0.046331728 | 8.12549E-06 | 0.034521825 | 0.011503816 | — | — | 4.79464E-05 | 0.000250015 | 0.046357869 | 8.14355E-06 | 0.034521825 | 0.011529384 | — | — |
| Uranium | U | 2.47391E-09 | 0.554132444 | 3.50249E-05 | — | — | 0.000769619 | 7.61205E-07 | 0.578412076 | 1.62515E-06 | 0.554132444 | 0.023008342 | — | — | 0.000769619 | 0.000500045 | 0.578443584 | 1.62733E-06 | 0.554132444 | 0.023039177 | — | — |
| Zinc | Zn | 7.83371E-05 | 0.630714969 | 0.009101345 | — | — | 0.001751965 | 0.000284862 | 2.531363111 | 0.018514615 | 0.293645373 | 2.151061581 | — | — | 0.000815672 | 0.067325871 | 2.544300205 | 0.018581654 | 0.298469495 | 2.158850334 | — | — |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.038495226 | 0.005998015 | 27.76760117 | 0.001854954 | 27.7124681 | 0.008043757 | — | — | 0.03848907 | 0.006745289 | 27.760493 | 0.001854954 | 27.70536979 | 0.008043757 | — | — | 0.038479211 | 0.006745289 | 27.75095717 | — | 27.7124681 |
| Antimony | Sb | 0.00034107 | 0.000502994 | 0.022357466 | 2.26445E-05 | 0.01037377 | 0.011322237 | — | — | 0.000135603 | 0.000503211 | 0.022357466 | 2.26445E-05 | 0.01037377 | 0.011322237 | — | — | 0.000135603 | 0.000503211 | 0.022281873 | 0.0000225 | 0.01037377 |
| Arsenic | As | 0.001385981 | 0.003373733 | 0.025982491 | 9.28025E-05 | 0.002755207 | 0.019589771 | — | — | 0.000170072 | 0.003374638 | 0.025982491 | 9.28025E-05 | 0.002755207 | 0.019589771 | — | — | 0.000170072 | 0.003374638 | 0.025906749 | 9.24977E-05 | 0.002755207 |
| Cadmium | Cd | 5.14473E-06 | 0.000374375 | 0.178172573 | 3.74427E-05 | 0.033653665 | 0.144103102 | — | — | 3.93605E-06 | 0.000374427 | 0.211132102 | 3.74427E-05 | 0.066609339 | 0.144103102 | — | — | 7.79047E-06 | 0.000374427 | 0.177859452 | 3.73616E-05 | 0.033653665 |
| Cobalt | Co | 0.000100569 | 0.011397571 | 1.199315543 | 0.000114031 | 1.156389905 | 0.031301455 | — | — | 0.000107072 | 0.01140308 | 1.085542978 | 0.000114031 | 1.042627873 | 0.031301455 | — | — | 9.65384E-05 | 0.01140308 | 1.199129248 | 0.000113535 | 1.156389905 |
| Copper | Cu | 0.000213764 | 0.024651334 | 0.836517957 | 0.008628644 | 0.384779591 | 0.418242691 | — | — | 0.000213764 | 0.024653268 | 0.853716682 | 0.008628644 | 0.401968766 | 0.418242691 | — | — | 0.000223313 | 0.024653268 | 0.836085694 | 0.008620383 | 0.384779591 |
| Cyanide | CN- | 0.000201204 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | 0.145065023 | — | 0.144863825 | — | — | — | 0.000201197 | — | 0.145069887 | — | 0.144868683 |
| Lead | Pb | 0.000168065 | 0.009427345 | 0.960874999 | 2.59434E-05 | 0.241869316 | 0.709387683 | — | — | 0.000158083 | 0.009433974 | 1.026971683 | 2.59434E-05 | 0.307922828 | 0.709387683 | — | — | 0.000201254 | 0.009433974 | 0.952608347 | 2.56451E-05 | 0.241869316 |
| Mercury | Hg | 2.74921E-06 | 3.93312E-05 | 0.006662855 | 1.08196E-05 | 0.001979261 | 0.004630682 | — | — | 2.74894E-06 | 3.93439E-05 | 0.006409714 | 1.08196E-05 | 0.001726471 | 0.004630682 | — | — | 2.39785E-06 | 3.93439E-05 | 0.0066494 | 1.07885E-05 | 0.001979261 |
| Methyl-Mercury | Me-Hg | 2.74921E-06 | — | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 | — | 0.001728869 | — | 0.001726471 | — | — | — | 2.39785E-06 | — | 0.00198201 | — | 0.001979261 |
| Silver | Ag | 1.59626E-05 | 0.000118633 | 0.017121825 | 3.26401E-05 | 0.011493248 | 0.005461283 | — | — | 1.59626E-05 | 0.000118691 | 0.017121825 | 3.26401E-05 | 0.011493248 | 0.005461283 | — | — | 1.59626E-05 | 0.000118691 | 0.017058382 | 3.22712E-05 | 0.011493248 |
| Thallium | Tl | 4.79464E-05 | 0.000250571 | 0.046358578 | 8.14404E-06 | 0.034521825 | 0.011530077 | — | — | 4.79464E-05 | 0.000250586 | 0.046358578 | 8.14404E-06 | 0.034521825 | 0.011530077 | — | — | 4.79464E-05 | 0.000250586 | 0.046331022 | 0.000008125 | 0.034521825 |
| Uranium | U | 0.000769619 | 0.000500716 | 0.578445727 | 1.62747E-06 | 0.554132444 | 0.023041275 | — | — | 0.000769619 | 0.000500761 | 0.578445727 | 1.62747E-06 | 0.554132444 | 0.023041275 | — | — | 0.000769619 | 0.000500761 | 0.578409938 | 0.000001625 | 0.554132444 |
| Zinc | Zn | 0.000829072 | 0.067569651 | 2.540145977 | 0.018587309 | 0.293645373 | 2.159507406 | — | — | 0.000815672 | 0.067590216 | 2.878151865 | 0.018587309 | 0.630714969 | 2.159507406 | — | — | 0.001751965 | 0.067590216 | 2.530681433 | 0.018508972 | 0.293645373 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.03848907 | — | 0.001839864 | 0.000205051 | — | 0.000889174 | — | — | — | 0.000745639 | 0.014800103 | 0.001649454 | — | 0.007152633 | — | — | — | 0.005998015 |
| Antimony | Sb | 0.01125 | — | — | 0.000135603 | 0.0005 | 5.07925E-06 | 9.70764E-09 | — | 4.85382E-06 | — | — | — | 2.15725E-07 | 0.026503739 | 1.34744E-07 | 0.026092168 | 6.73721E-05 | — | — | 0.00034107 | 2.99431E-06 |
| Arsenic | As | 0.01952542 | — | — | 0.000170072 | 0.003363552 | 6.16421E-06 | 2.48102E-08 | — | 5.23721E-06 | — | — | — | 9.02189E-07 | 0.023908711 | 2.79982E-07 | 0.022453167 | 5.91018E-05 | — | — | 0.001385981 | 1.01812E-05 |
| Cadmium | Cd | 0.143790874 | — | — | 3.93605E-06 | 0.000373616 | 2.02106E-05 | 5.2364E-09 | — | 2.0153E-05 | — | — | — | 5.2364E-08 | 0.044285947 | 7.58773E-08 | 0.043987945 | 0.000292023 | — | — | 5.14473E-06 | 7.58773E-07 |
| Cobalt | Co | 0.031165269 | — | — | 0.000107072 | 0.011353468 | 2.06401E-05 | 5.49671E-08 | — | 1.50885E-05 | — | — | — | 5.49671E-06 | 0.000165607 | 4.41032E-07 | — | 0.000121063 | — | — | — | 4.41032E-05 |
| Copper | Cu | 0.41784229 | — | — | 0.000213764 | 0.024629666 | 3.53254E-05 | 6.75069E-07 | — | 3.27216E-05 | — | — | — | 1.92877E-06 | 0.343475868 | 7.58354E-06 | 0.342888541 | 0.000367585 | — | — | 0.000190491 | 2.16672E-05 |
| Cyanide | CN- | — | — | — | 0.000201204 | — | — | — | — | — | — | — | — | — | 0.129476626 | — | 0.129297049 | — | — | — | 0.000179577 | — |
| Lead | Pb | 0.701229819 | — | — | 0.000158083 | 0.009325485 | 0.000503984 | 1.81889E-08 | — | 0.000497352 | — | — | — | 6.61416E-06 | 0.265071827 | 2.80116E-07 | 0.257142238 | 0.007659384 | — | — | 0.000168065 | 0.00010186 |
| Mercury | Hg | 0.004617371 | — | — | 2.74894E-06 | 3.92308E-05 | 1.50908E-06 | 3.48818E-09 | — | 1.49291E-06 | — | — | — | 1.26843E-08 | 1.19427E-05 | 2.76051E-08 | — | 1.18147E-05 | — | — | — | 1.00382E-07 |
| Methyl-Mercury | Me-Hg | — | — | — | 2.74894E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | 0.005399551 | — | — | 1.59626E-05 | 0.00011735 | 2.76457E-06 | 1.60774E-08 | — | 2.69003E-06 | — | — | — | 5.84631E-08 | 6.06724E-05 | 3.5284E-07 | — | 5.90365E-05 | — | — | — | 1.28305E-06 |
| Thallium | Tl | 0.011503125 | — | — | 4.79464E-05 | 0.00025 | 7.06643E-07 | 4.88169E-10 | — | 6.91134E-07 | — | — | — | 1.50206E-08 | 2.68478E-05 | 1.85472E-08 | — | 2.62586E-05 | — | — | — | 5.70683E-07 |
| Uranium | U | 0.02300625 | — | — | 0.000769619 | 0.0005 | 2.13733E-06 | 1.47745E-10 | — | 2.09172E-06 | — | — | — | 4.54599E-08 | 3.36453E-05 | 2.32576E-09 | — | 3.29274E-05 | — | — | — | 7.15618E-07 |
| Zinc | Zn | 2.150406061 | — | — | 0.000815672 | 0.067305354 | 0.000681679 | 5.64219E-06 | — | 0.000655519 | — | — | — | 2.0517E-05 | 0.308079817 | 7.26815E-05 | 0.298469495 | 0.008444273 | — | — | 0.000829072 | 0.000264296 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.016644 | 0.001854954 | — | 0.008043757 | — | — | — | 0.006745289 | 27.760493 | 0.001854954 | 27.70536979 | 0.008043757 | — | — | 0.038479211 | 0.006745289 | 27.75279703 | 0.000205051 | 27.7124681 | 0.000889174 | — |
| Antimony | Sb | 7.55921E-05 | 1.44474E-07 | — | 7.22371E-05 | — | — | — | 3.21054E-06 | 0.010584966 | 1.44474E-07 | 0.01037377 | 7.22371E-05 | — | — | 0.000135603 | 3.21054E-06 | 0.022286953 | 2.25097E-05 | 0.01037377 | 0.011254854 | — |
| Arsenic | As | 7.57419E-05 | 3.04852E-07 | — | 6.43515E-05 | — | — | — | 1.10855E-05 | 0.003001022 | 3.04852E-07 | 0.002755207 | 6.43515E-05 | — | — | 0.000170072 | 1.10855E-05 | 0.025912913 | 9.25225E-05 | 0.002755207 | 0.019530657 | — |
| Cadmium | Cd | 0.000313121 | 8.11272E-08 | — | 0.000312228 | — | — | — | 8.11272E-07 | 0.06693025 | 8.11272E-08 | 0.066609339 | 0.000312228 | — | — | 7.79047E-06 | 8.11272E-07 | 0.177879663 | 3.73669E-05 | 0.033653665 | 0.143811027 | — |
| Cobalt | Co | 0.000186295 | 4.96125E-07 | — | 0.000136186 | — | — | — | 4.96125E-05 | 1.007514595 | 4.96125E-07 | 1.007235039 | 0.000136186 | — | — | 9.32614E-05 | 4.96125E-05 | 1.199149888 | 0.00011359 | 1.156389905 | 0.031180357 | — |
| Copper | Cu | 0.000432263 | 8.26055E-06 | — | 0.000400401 | — | — | — | 2.36016E-05 | 0.402624342 | 8.26055E-06 | 0.401968766 | 0.000400401 | — | — | 0.000223313 | 2.36016E-05 | 0.836121019 | 0.008621058 | 0.384779591 | 0.417875012 | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.145065023 | — | 0.144863825 | — | — | — | 0.000201197 | — | 0.145069887 | — | 0.144868683 | — | — |
| Lead | Pb | 0.008266652 | 2.98346E-07 | — | 0.008157864 | — | — | — | 0.000108489 | 0.316390734 | 2.98346E-07 | 0.307922828 | 0.008157864 | — | — | 0.000201254 | 0.000108489 | 0.953112331 | 2.56633E-05 | 0.241869316 | 0.70172717 | — |
| Mercury | Hg | 1.34554E-05 | 3.11015E-08 | — | 1.33112E-05 | — | — | — | 1.13096E-07 | 0.001742324 | 3.11015E-08 | 0.001726471 | 1.33112E-05 | — | — | 2.39785E-06 | 1.13096E-07 | 0.006650909 | 1.0792E-05 | 0.001979261 | 0.004618864 | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 0.001728869 | — | 0.001726471 | — | — | — | 2.39785E-06 | — | 0.00198201 | — | 0.001979261 | — | — |
| Silver | Ag | 6.34433E-05 | 3.68954E-07 | — | 6.17327E-05 | — | — | — | 1.34165E-06 | 0.011572654 | 3.68954E-07 | 0.011493248 | 6.17327E-05 | — | — | 1.59626E-05 | 1.34165E-06 | 0.017061146 | 3.22872E-05 | 0.011493248 | 0.005402241 | — |
| Thallium | Tl | 2.75566E-05 | 1.90369E-08 | — | 2.69518E-05 | — | — | — | 5.8575E-07 | 0.034597328 | 1.90369E-08 | 0.034521825 | 2.69518E-05 | — | — | 4.79464E-05 | 5.8575E-07 | 0.046331728 | 8.12549E-06 | 0.034521825 | 0.011503816 | — |
| Uranium | U | 3.57886E-05 | 2.47391E-09 | — | 3.50249E-05 | — | — | — | 7.61205E-07 | 0.554937852 | 2.47391E-09 | 0.554132444 | 3.50249E-05 | — | — | 0.000769619 | 7.61205E-07 | 0.578412076 | 1.62515E-06 | 0.554132444 | 0.023008342 | — |
| Zinc | Zn | 0.009464544 | 7.83371E-05 | — | 0.009101345 | — | — | — | 0.000284862 | 0.641931477 | 7.83371E-05 | 0.630714969 | 0.009101345 | — | — | 0.001751965 | 0.000284862 | 2.531363111 | 0.018514615 | 0.293645373 | 2.151061581 | — |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) | Total Dose to Mallard Duck (mg/kg/d) | Dose to Mallard Duck from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.03848907 | 0.000745639 | 27.77019578 | 0.001649454 | 27.71690045 | 0.007152633 | — | — | 0.038495226 | 0.005998015 | 27.76760117 | 0.001854954 | 27.7124681 | 0.008043757 | — | — | 0.03848907 | 0.006745289 | 27.760493 | 0.001854954 |
| Antimony | Sb | — | 0.000135603 | 0.000500216 | 0.038276239 | 2.26347E-05 | 0.026092168 | 0.011317372 | — | — | 0.00034107 | 0.000502994 | 0.022357466 | 2.26445E-05 | 0.01037377 | 0.011322237 | — | — | 0.000135603 | 0.000503211 | 0.022357466 | 2.26445E-05 |
| Arsenic | As | — | 0.000170072 | 0.003364454 | 0.04689018 | 9.27777E-05 | 0.022453167 | 0.019584522 | — | — | 0.001385981 | 0.003373733 | 0.025982491 | 9.28025E-05 | 0.002755207 | 0.019589771 | — | — | 0.000170072 | 0.003374638 | 0.025982491 | 9.28025E-05 |
| Cadmium | Cd | — | 3.93605E-06 | 0.000373669 | 0.188487799 | 3.74375E-05 | 0.043987945 | 0.144082897 | — | — | 5.14473E-06 | 0.000374375 | 0.178172573 | 3.74427E-05 | 0.033653665 | 0.144103102 | — | — | 3.93605E-06 | 0.000374427 | 0.211132102 | 3.74427E-05 |
| Cobalt | Co | — | 0.000107072 | 0.011358964 | 1.129056209 | 0.000113976 | 1.086157762 | 0.031286332 | — | — | 0.000100569 | 0.011397571 | 1.199315543 | 0.000114031 | 1.156389905 | 0.031301455 | — | — | 0.000107072 | 0.01140308 | 1.085542978 | 0.000114031 |
| Copper | Cu | — | 0.000213764 | 0.024631595 | 0.83648253 | 0.008627967 | 0.384779591 | 0.418209875 | — | — | 0.000213764 | 0.024651334 | 0.836517957 | 0.008628644 | 0.384779591 | 0.418242691 | — | — | 0.000213764 | 0.024653268 | 0.853716682 | 0.008628644 |
| Cyanide | CN- | — | 0.000201204 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | 0.145069887 | — | 0.144868683 | — | — | — | 0.000201204 | — | 0.145065023 | — |
| Lead | Pb | — | 0.000158083 | 0.009332099 | 0.975652776 | 2.59252E-05 | 0.257142238 | 0.708889203 | — | — | 0.000168065 | 0.009427345 | 0.960874999 | 2.59434E-05 | 0.241869316 | 0.709387683 | — | — | 0.000158083 | 0.009433974 | 1.026971683 | 2.59434E-05 |
| Mercury | Hg | — | 2.74894E-06 | 3.92435E-05 | 0.006661537 | 1.08161E-05 | 0.001979455 | 0.004629185 | — | — | 2.74921E-06 | 3.93312E-05 | 0.006662855 | 1.08196E-05 | 0.001979261 | 0.004630682 | — | — | 2.74894E-06 | 3.93439E-05 | 0.006409714 | 1.08196E-05 |
| Methyl-Mercury | Me-Hg | — | 2.74894E-06 | — | 0.001982204 | — | 0.001979455 | — | — | — | 2.74921E-06 | — | 0.00198201 | — | 0.001979261 | — | — | — | 2.74894E-06 | — | 0.001728869 | — |
| Silver | Ag | — | 1.59626E-05 | 0.000117408 | 0.017119054 | 3.2624E-05 | 0.011493248 | 0.005458587 | — | — | 1.59626E-05 | 0.000118633 | 0.017121825 | 3.26401E-05 | 0.011493248 | 0.005461283 | — | — | 1.59626E-05 | 0.000118691 | 0.017121825 | 3.26401E-05 |
| Thallium | Tl | — | 4.79464E-05 | 0.000250015 | 0.046357869 | 8.14355E-06 | 0.034521825 | 0.011529384 | — | — | 4.79464E-05 | 0.000250571 | 0.046358578 | 8.14404E-06 | 0.034521825 | 0.011530077 | — | — | 4.79464E-05 | 0.000250586 | 0.046358578 | 8.14404E-06 |
| Uranium | U | — | 0.000769619 | 0.000500045 | 0.578443584 | 1.62733E-06 | 0.554132444 | 0.023039177 | — | — | 0.000769619 | 0.000500716 | 0.578445727 | 1.62747E-06 | 0.554132444 | 0.023041275 | — | — | 0.000769619 | 0.000500761 | 0.578445727 | 1.62747E-06 |
| Zinc | Zn | — | 0.000815672 | 0.067325871 | 2.544300205 | 0.018581654 | 0.298469495 | 2.158850334 | — | — | 0.000829072 | 0.067569651 | 2.540145977 | 0.018587309 | 0.293645373 | 2.159507406 | — | — | 0.000815672 | 0.067590216 | 2.878151865 | 0.018587309 |

## Table VI-9A Estimated Ecological Exposure Dose: Mallard Duck

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Mallard Duck from the consumption of Plant_3 (mg/kg/d) | Dose to Mallard Duck from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of — (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Water (dry) (mg/kg/d) | Dose to Mallard Duck from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 27.70536979 | 0.008043757 | — | — | 0.038479211 | 0.006745289 |
| Antimony | Sb | 0.01037377 | 0.011322237 | — | — | 0.000135603 | 0.000503211 |
| Arsenic | As | 0.002755207 | 0.019589771 | — | — | 0.000170072 | 0.003374638 |
| Cadmium | Cd | 0.066609339 | 0.144103102 | — | — | 7.79047E-06 | 0.000374427 |
| Cobalt | Co | 1.042627873 | 0.031301455 | — | — | 9.65384E-05 | 0.01140308 |
| Copper | Cu | 0.401968766 | 0.418242691 | — | — | 0.000223313 | 0.024653268 |
| Cyanide | CN- | 0.144863825 | — | — | — | 0.000201197 | — |
| Lead | Pb | 0.307922828 | 0.709387683 | — | — | 0.000201254 | 0.009433974 |
| Mercury | Hg | 0.001726471 | 0.004630682 | — | — | 2.39785E-06 | 3.93439E-05 |
| Methyl-Mercury | Me-Hg | 0.001726471 | — | — | — | 2.39785E-06 | — |
| Silver | Ag | 0.011493248 | 0.005461283 | — | — | 1.59626E-05 | 0.000118691 |
| Thallium | Tl | 0.034521825 | 0.011530077 | — | — | 4.79464E-05 | 0.000250586 |
| Uranium | U | 0.554132444 | 0.023041275 | — | — | 0.000769619 | 0.000500761 |
| Zinc | Zn | 0.630714969 | 2.159507406 | — | — | 0.001751965 | 0.067590216 |

## Table VI-9B Estimated Ecological Risk: Mallard Duck

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.252971351 | 0.252971351 | 0.370128174 | 0.370128174 | 0.370228953 | 0.370228953 | 0.000100779 | 0.000100779 | 0.370128174 | 0.370128174 | 0.255585821 | 0.255585821 | 0.623099525 | 0.623099525 | 0.62288985 | 0.62288985 | 0.623099525 | 0.623099525 | 0.255585821 | 0.255585821 | 0.252971351 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.010531199 | 0.003500912 | 0.054066519 | 0.017973464 | 0.063600322 | 0.02114281 | 0.000406499 | 0.000135133 | 0.054066519 | 0.017973464 | 0.001754415 | 0.000583224 | 0.055255657 | 0.018368772 | 0.063600322 | 0.02114281 | 0.055255657 | 0.018368772 | 0.011096475 | 0.003688828 | 0.010531199 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.157572832 | 0.153734519 | 0.059116179 | 0.057676169 | 0.05914538 | 0.057704659 | 2.9201E-05 | 2.84897E-05 | 0.059116179 | 0.057676169 | 0.132846181 | 0.129610184 | 0.211086872 | 0.205945012 | 0.201873075 | 0.196955654 | 0.211086872 | 0.205945012 | 0.143099151 | 0.139613403 | 0.157572832 |
| Copper | Cu | 0.017789057 | 0.013485253 | 0.01532084 | 0.011614185 | 0.022637617 | 0.017160774 | 2.12763E-05 | 1.61288E-05 | 0.01532084 | 0.011614185 | 0.008736696 | 0.006622979 | 0.023512188 | 0.017823755 | 0.023528916 | 0.017836436 | 0.023512188 | 0.017823755 | 0.018334405 | 0.013898662 | 0.017789057 |
| Cyanide | CN- | — | 0.690808988 | — | — | — | 0.880247272 | — | 0.264547039 | — | — | — | 0.691150476 | — | 0.690808988 | — | 0.954397913 | — | 0.690808988 | — | 0.691150476 | — |
| Lead | Pb | 0.584422299 | 0.288669196 | 6.765920379 | 3.341954611 | 6.926471138 | 3.421256956 | 0.002794785 | 0.001380455 | 6.765920379 | 3.341954611 | 0.286138925 | 0.141335287 | 6.914403445 | 3.415296247 | 6.926471138 | 3.421256956 | 6.914403445 | 3.415296247 | 0.722078158 | 0.356662848 | 0.584422299 |
| Mercury | Hg | 0.014776445 | 0.007388222 | 0.072638944 | 0.036319472 | 0.072861163 | 0.036430582 | 0.00022222 | 0.00011111 | 0.072638944 | 0.036319472 | 0.004451523 | 0.002225762 | 0.07704341 | 0.038521705 | 0.077259952 | 0.038629976 | 0.07704341 | 0.038521705 | 0.014823501 | 0.00741175 | 0.014776445 |
| Methyl-Mercury | Me-Hg | 0.309689069 | 0.030968907 | — | — | 0.01562481 | 0.001562481 | 0.01562481 | 0.001562481 | — | — | 0.271497212 | 0.027149721 | 0.309689069 | 0.030968907 | 0.324914661 | 0.032491466 | 0.309689069 | 0.030968907 | 0.271497212 | 0.027149721 | 0.309689069 |
| Silver | Ag | 0.008444743 | 0.000844474 | 0.029840651 | 0.002984065 | 0.029842026 | 0.002984203 | 1.37512E-06 | 1.37512E-07 | 0.029840651 | 0.002984065 | 0.006287095 | 0.000628709 | 0.03553828 | 0.003553828 | 0.035531753 | 0.003553175 | 0.03553828 | 0.003553828 | 0.009034209 | 0.000903421 | 0.008444743 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.174529754 | 0.019318179 | 1.017149785 | 0.112585281 | 1.037887142 | 0.114880638 | 0.000153255 | 1.69633E-05 | 1.017149785 | 0.112585281 | 0.056189182 | 0.006219413 | 1.037457443 | 0.114833076 | 1.037887142 | 0.114880638 | 1.037457443 | 0.114833076 | 0.210411278 | 0.023289798 | 0.174529754 |

## Table VI-9B Estimated Ecological Risk: Mallard Duck

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.252971351 | 1.67718E-05 | 1.67718E-05 | 0.000134914 | 0.000134914 | 0.000151723 | 0.000151723 | 0.253058277 | 0.253058277 | 0.252988122 | 0.252988122 | 0.253146725 | 0.253146725 | 0.253123074 | 0.253123074 | 0.253058277 | 0.253058277 | 0.252971351 | 0.252971351 | 1.67718E-05 | 1.67718E-05 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.003500912 | 2.50578E-06 | 8.33001E-07 | 0.009718988 | 0.003230907 | 3.07894E-05 | 1.02354E-05 | 0.001219927 | 0.000405543 | 0.010533705 | 0.003501745 | 0.019061049 | 0.006336511 | 0.010561988 | 0.003511147 | 0.010561988 | 0.003511147 | 0.010531199 | 0.003500912 | 2.50578E-06 | 8.33001E-07 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.153734519 | 2.71224E-06 | 2.64617E-06 | 2.17618E-05 | 2.12317E-05 | 2.44803E-05 | 2.3884E-05 | 0.132393508 | 0.129168538 | 0.157575544 | 0.153737165 | 0.148364811 | 0.144750796 | 0.157597312 | 0.153758403 | 0.142646909 | 0.139172177 | 0.157572832 | 0.153734519 | 2.71224E-06 | 2.64617E-06 |
| Copper | Cu | 0.013485253 | 7.51605E-07 | 5.69765E-07 | 0.007307997 | 0.005539933 | 9.19708E-06 | 6.97198E-06 | 0.008566475 | 0.006493941 | 0.017789809 | 0.013485823 | 0.017797501 | 0.013491654 | 0.017798254 | 0.013492225 | 0.018164185 | 0.013769624 | 0.017789057 | 0.013485253 | 7.51605E-07 | 5.69765E-07 |
| Cyanide | CN- | 0.690808988 | — | — | — | 0.616555361 | — | — | — | 0.690785823 | — | 0.690808988 | — | 0.690808988 | — | 0.690808988 | — | 0.690785823 | — | 0.690808988 | — | — | — | — |
| Lead | Pb | 0.288669196 | 0.000309193 | 0.000152722 | 0.162620753 | 0.080324796 | 0.005071565 | 0.002505046 | 0.194104745 | 0.09587598 | 0.584731491 | 0.288821918 | 0.598559985 | 0.295652356 | 0.589493864 | 0.291174242 | 0.630043977 | 0.31120354 | 0.584422299 | 0.288669196 | 0.000309193 | 0.000152722 |
| Mercury | Hg | 0.007388222 | 3.35351E-06 | 1.67676E-06 | 2.65394E-05 | 1.32697E-05 | 2.99008E-05 | 1.49504E-05 | 0.003871832 | 0.001935916 | 0.014779798 | 0.007389899 | 0.014803416 | 0.007401708 | 0.014806345 | 0.007403173 | 0.01424381 | 0.007121905 | 0.014776445 | 0.007388222 | 3.35351E-06 | 1.67676E-06 |
| Methyl-Mercury | Me-Hg | 0.030968907 | — | — | — | — | — | — | 0.270135785 | 0.027013579 | 0.309689069 | 0.030968907 | 0.309719415 | 0.030971942 | 0.309689069 | 0.030968907 | 0.270135785 | 0.027013579 | 0.309689069 | 0.030968907 | — | — | — | — |
| Silver | Ag | 0.000844474 | 1.3686E-06 | 1.3686E-07 | 3.00358E-05 | 3.00358E-06 | 3.14076E-05 | 3.14076E-06 | 0.005729037 | 0.000572904 | 0.008446112 | 0.000844611 | 0.008474779 | 0.000847478 | 0.008476151 | 0.000847615 | 0.008476151 | 0.000847615 | 0.008444743 | 0.000844474 | 1.3686E-06 | 1.3686E-07 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.019318179 | 4.70123E-05 | 5.20365E-06 | 0.021246884 | 0.002351754 | 0.000652727 | 7.22484E-05 | 0.044271136 | 0.00490024 | 0.174576766 | 0.019323383 | 0.17546898 | 0.019422139 | 0.175182481 | 0.019390427 | 0.198493232 | 0.021970625 | 0.174529754 | 0.019318179 | 4.70123E-05 | 5.20365E-06 |

## Table VI-9B Estimated Ecological Risk: Mallard Duck

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) | Risk to Mallard Duck (NOAELb) | Risk to Mallard Duck (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000134914 | 0.000134914 | 0.000151723 | 0.000151723 | 0.253058277 | 0.253058277 | 0.252988122 | 0.252988122 | 0.253146725 | 0.253146725 | 0.253123074 | 0.253123074 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.009718988 | 0.003230907 | 3.07894E-05 | 1.02354E-05 | 0.001219927 | 0.000405543 | 0.010533705 | 0.003501745 | 0.019061049 | 0.006336511 | 0.010561988 | 0.003511147 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 2.17618E-05 | 2.12317E-05 | 2.44803E-05 | 2.3884E-05 | 0.132393508 | 0.129168538 | 0.157575544 | 0.153737165 | 0.148364811 | 0.144750796 | 0.157597312 | 0.153758403 |
| Copper | Cu | 0.007307997 | 0.005539933 | 9.19708E-06 | 6.97198E-06 | 0.008566475 | 0.006493941 | 0.017789809 | 0.013485823 | 0.017797501 | 0.013491654 | 0.017798254 | 0.013492225 |
| Cyanide | CN- | — | 0.616555361 | — | — | — | 0.690785823 | — | 0.690808988 | — | 0.690808988 | — | 0.690808988 |
| Lead | Pb | 0.162620753 | 0.080324796 | 0.005071565 | 0.002505046 | 0.194104745 | 0.09587598 | 0.584731491 | 0.288821918 | 0.598559985 | 0.295652356 | 0.589493864 | 0.291174242 |
| Mercury | Hg | 2.65394E-05 | 1.32697E-05 | 2.99008E-05 | 1.49504E-05 | 0.003871832 | 0.001935916 | 0.014779798 | 0.007389899 | 0.014803416 | 0.007401708 | 0.014806345 | 0.007403173 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.270135785 | 0.027013579 | 0.309689069 | 0.030968907 | 0.309719415 | 0.030971942 | 0.309689069 | 0.030968907 |
| Silver | Ag | 3.00358E-05 | 3.00358E-06 | 3.14076E-05 | 3.14076E-06 | 0.005729037 | 0.000572904 | 0.008446112 | 0.000844611 | 0.008474779 | 0.000847478 | 0.008476151 | 0.000847615 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.021246884 | 0.002351754 | 0.000652727 | 7.22484E-05 | 0.044271136 | 0.00490024 | 0.174576766 | 0.019323383 | 0.17546898 | 0.019422139 | 0.175182481 | 0.019390427 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.151970571 | — | — | — | — | — | 0.151970571 | — | 314.7572302 | 4.706170357 | 224.484326 | — | — | — | — | 85.56673377 | 314.8008815 | 4.706170357 | 224.484326 | — | — |
| Antimony | Sb | 0.131858817 | 0.0000234 | 0.1287 | — | — | — | 0.000535417 | 0.0026 | 1.233070275 | 0.000219716 | 1.208437676 | — | — | — | — | 0.024412882 | 1.233508981 | 0.000219716 | 1.208437676 | — | — |
| Arsenic | As | 0.241628986 | 9.61976E-05 | 0.223370802 | — | — | — | 0.000671516 | 0.017490471 | 1.394524391 | 0.000556737 | 1.292742787 | — | — | — | — | 0.101224868 | 1.398472752 | 0.000556737 | 1.292742787 | — | — |
| Cadmium | Cd | 1.646964795 | 3.88561E-05 | 1.644967594 | — | — | — | 1.55411E-05 | 0.001942804 | 4.876786054 | 0.000115057 | 4.870918154 | — | — | — | — | 0.005752843 | 4.877224761 | 0.000115057 | 4.870918154 | — | — |
| Cobalt | Co | 0.416109546 | 0.000118076 | 0.356530675 | — | — | — | 0.000422763 | 0.059038032 | 4.38650629 | 0.00124599 | 3.762265515 | — | — | — | — | 0.622994786 | 4.387383704 | 0.00124599 | 3.762265515 | — | — |
| Copper | Cu | 4.917999289 | 0.008965199 | 4.780115798 | — | — | — | 0.000844027 | 0.128074265 | 7.849263381 | 0.014311162 | 7.63050705 | — | — | — | — | 0.204445169 | 7.853211741 | 0.014311162 | 7.63050705 | — | — |
| Cyanide | CN- | 0.000794436 | — | — | — | — | — | 0.000794436 | — | — | — | — | — | — | — | — | — | 0.219353355 | — | — | — | — |
| Lead | Pb | 8.071212491 | 2.66709E-05 | 8.022069125 | — | — | — | 0.000624175 | 0.04849252 | 125.2581872 | 0.000413941 | 124.5051534 | — | — | — | — | 0.752619876 | 125.2761742 | 0.000413941 | 124.5051534 | — | — |
| Mercury | Hg | 0.053048795 | 1.122E-05 | 0.052822721 | — | — | — | 1.08539E-05 | 0.000204 | 0.37144507 | 7.85781E-05 | 0.369937799 | — | — | — | — | 0.001428693 | 0.371839906 | 7.85781E-05 | 0.369937799 | — | — |
| Methyl-Mercury | Me-Hg | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 | — | — | — | — | — | — | — | — | — | 0.000394836 | — | — | — | — |
| Silver | Ag | 0.062477666 | 3.3562E-05 | 0.061770858 | — | — | — | 6.30271E-05 | 0.000610218 | 0.677981722 | 0.000364569 | 0.670988632 | — | — | — | — | 0.006628521 | 0.67799269 | 0.000364569 | 0.670988632 | — | — |
| Thallium | Tl | 0.133093512 | 0.00000845 | 0.13159575 | — | — | — | 0.000189312 | 0.0013 | 0.158691001 | 1.00895E-05 | 0.157128678 | — | — | — | — | 0.001552233 | 0.299515855 | 1.00895E-05 | 0.157128678 | — | — |
| Uranium | U | 0.26883196 | 0.00000169 | 0.2631915 | — | — | — | 0.00303877 | 0.0026 | 0.498246152 | 3.16801E-06 | 0.493369119 | — | — | — | — | 0.004873865 | 0.499342918 | 3.16801E-06 | 0.493369119 | — | — |
| Zinc | Zn | 24.97310312 | 0.019249331 | 24.60064534 | — | — | — | 0.003220605 | 0.349987841 | 164.6852904 | 0.126956212 | 162.2500394 | — | — | — | — | 2.308294771 | 164.6940645 | 0.126956212 | 162.2500394 | — | — |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.043651318 | 85.56673377 | 314.7572302 | 4.706170357 | 224.484326 | — | — | — | — | 85.56673377 | 2.560895228 | 0.038043878 | 1.814692977 | — | — | — | 0.016451502 | 0.691706871 | 314.9092007 | 4.706170357 |
| Antimony | Sb | — | 0.000438707 | 0.024412882 | 1.233070275 | 0.000219716 | 1.208437676 | — | — | — | — | 0.024412882 | 0.016457094 | 2.88652E-06 | 0.015875868 | — | — | — | 0.000257614 | 0.000320725 | 1.233605691 | 0.000219716 |
| Arsenic | As | — | 0.00394836 | 0.101224868 | 1.394524391 | 0.000556737 | 1.292742787 | — | — | — | — | 0.101224868 | 0.015755761 | 6.14369E-06 | 0.014265642 | — | — | — | 0.000366942 | 0.001117034 | 1.395195907 | 0.000556737 |
| Cadmium | Cd | — | 0.000438707 | 0.005752843 | 4.876786054 | 0.000115057 | 4.870918154 | — | — | — | — | 0.005752843 | 0.068635363 | 1.61826E-06 | 0.068508961 | — | — | — | 4.38707E-05 | 8.09131E-05 | 4.876801596 | 0.000115057 |
| Cobalt | Co | — | 0.000877413 | 0.622994786 | 4.38650629 | 0.00124599 | 3.762265515 | — | — | — | — | 0.622994786 | 0.036024684 | 1.01768E-05 | 0.030728712 | — | — | — | 0.000197418 | 0.005088377 | 4.386929054 | 0.00124599 |
| Copper | Cu | — | 0.00394836 | 0.204445169 | 7.849263381 | 0.014311162 | 7.63050705 | — | — | — | — | 0.204445169 | 0.092423262 | 0.000166511 | 0.088781257 | — | — | — | 0.001096767 | 0.002378728 | 7.850107408 | 0.014311162 |
| Cyanide | CN- | — | 0.219353355 | — | — | — | — | — | — | — | — | — | 0.001096767 | — | — | — | — | — | 0.001096767 | — | 0.000794436 | — |
| Lead | Pb | — | 0.017986975 | 0.752619876 | 125.2581872 | 0.000413941 | 124.5051534 | — | — | — | — | 0.752619876 | 1.79795644 | 5.93809E-06 | 1.786057217 | — | — | — | 0.001096767 | 0.010796518 | 125.2588114 | 0.000413941 |
| Mercury | Hg | — | 0.000394836 | 0.001428693 | 0.37144507 | 7.85781E-05 | 0.369937799 | — | — | — | — | 0.001428693 | 0.003062056 | 6.38488E-07 | 0.003005938 | — | — | — | 4.38707E-05 | 1.16089E-05 | 0.371455924 | 7.85781E-05 |
| Methyl-Mercury | Me-Hg | — | 0.000394836 | — | — | — | — | — | — | — | — | — | 4.38707E-05 | — | — | — | — | — | 4.38707E-05 | — | 1.08539E-05 | — |
| Silver | Ag | — | 1.09677E-05 | 0.006628521 | 0.677981722 | 0.000364569 | 0.670988632 | — | — | — | — | 0.006628521 | 0.01353222 | 7.26499E-06 | 0.013371213 | — | — | — | 2.16514E-05 | 0.000132091 | 0.678044749 | 0.000364569 |
| Thallium | Tl | — | 0.140824854 | 0.001552233 | 0.158691001 | 1.00895E-05 | 0.157128678 | — | — | — | — | 0.001552233 | 0.005895978 | 3.7068E-07 | 0.005772773 | — | — | — | 6.5806E-05 | 5.70277E-05 | 0.158880313 | 1.00895E-05 |
| Uranium | U | — | 0.001096767 | 0.004873865 | 0.498246152 | 3.16801E-06 | 0.493369119 | — | — | — | — | 0.004873865 | 0.008834965 | 4.9202E-08 | 0.007662453 | — | — | — | 0.001096767 | 7.56954E-05 | 0.501284922 | 3.16801E-06 |
| Zinc | Zn | — | 0.008774134 | 2.308294771 | 164.6852904 | 0.126956212 | 162.2500394 | — | — | — | — | 2.308294771 | 2.042849412 | 0.001569764 | 2.006157892 | — | — | — | 0.006580601 | 0.028541157 | 164.688511 | 0.126956212 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 224.484326 | — | — | — | 0.151970571 | 85.56673377 | 314.8008815 | 4.706170357 | 224.484326 | — | — | — | 0.043651318 | 85.56673377 | 314.9092007 | 4.706170357 | 224.484326 | — | — | — | 0.151970571 |
| Antimony | Sb | 1.208437676 | — | — | — | 0.000535417 | 0.024412882 | 1.233508981 | 0.000219716 | 1.208437676 | — | — | — | 0.000438707 | 0.024412882 | 1.233605691 | 0.000219716 | 1.208437676 | — | — | — | 0.000535417 |
| Arsenic | As | 1.292742787 | — | — | — | 0.000671516 | 0.101224868 | 1.398472752 | 0.000556737 | 1.292742787 | — | — | — | 0.00394836 | 0.101224868 | 1.395195907 | 0.000556737 | 1.292742787 | — | — | — | 0.000671516 |
| Cadmium | Cd | 4.870918154 | — | — | — | 1.55411E-05 | 0.005752843 | 4.877224761 | 0.000115057 | 4.870918154 | — | — | — | 0.000438707 | 0.005752843 | 4.876801596 | 0.000115057 | 4.870918154 | — | — | — | 1.55411E-05 |
| Cobalt | Co | 3.762265515 | — | — | — | 0.000422763 | 0.622994786 | 4.387383704 | 0.00124599 | 3.762265515 | — | — | — | 0.000877413 | 0.622994786 | 4.386929054 | 0.00124599 | 3.762265515 | — | — | — | 0.000422763 |
| Copper | Cu | 7.63050705 | — | — | — | 0.000844027 | 0.204445169 | 7.853211741 | 0.014311162 | 7.63050705 | — | — | — | 0.00394836 | 0.204445169 | 7.850107408 | 0.014311162 | 7.63050705 | — | — | — | 0.000844027 |
| Cyanide | CN- | — | — | — | — | 0.000794436 | — | 0.219353355 | — | — | — | — | — | 0.219353355 | — | 0.000794436 | — | — | — | — | — | 0.000794436 |
| Lead | Pb | 124.5051534 | — | — | — | 0.000624175 | 0.752619876 | 125.2761742 | 0.000413941 | 124.5051534 | — | — | — | 0.017986975 | 0.752619876 | 125.2588114 | 0.000413941 | 124.5051534 | — | — | — | 0.000624175 |
| Mercury | Hg | 0.369937799 | — | — | — | 1.08539E-05 | 0.001428693 | 0.371839906 | 7.85781E-05 | 0.369937799 | — | — | — | 0.000394836 | 0.001428693 | 0.371455924 | 7.85781E-05 | 0.369937799 | — | — | — | 1.08539E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 1.08539E-05 | — | 0.000394836 | — | — | — | — | — | 0.000394836 | — | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 |
| Silver | Ag | 0.670988632 | — | — | — | 6.30271E-05 | 0.006628521 | 0.67799269 | 0.000364569 | 0.670988632 | — | — | — | 1.09677E-05 | 0.006628521 | 0.678044749 | 0.000364569 | 0.670988632 | — | — | — | 6.30271E-05 |
| Thallium | Tl | 0.157128678 | — | — | — | 0.000189312 | 0.001552233 | 0.299515855 | 1.00895E-05 | 0.157128678 | — | — | — | 0.140824854 | 0.001552233 | 0.158880313 | 1.00895E-05 | 0.157128678 | — | — | — | 0.000189312 |
| Uranium | U | 0.493369119 | — | — | — | 0.00303877 | 0.004873865 | 0.499342918 | 3.16801E-06 | 0.493369119 | — | — | — | 0.001096767 | 0.004873865 | 0.501284922 | 3.16801E-06 | 0.493369119 | — | — | — | 0.00303877 |
| Zinc | Zn | 162.2500394 | — | — | — | 0.003220605 | 2.308294771 | 164.6940645 | 0.126956212 | 162.2500394 | — | — | — | 0.008774134 | 2.308294771 | 164.688511 | 0.126956212 | 162.2500394 | — | — | — | 0.003220605 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 85.56673377 | 2.560895228 | 0.038043878 | 1.814692977 | — | — | — | 0.016451502 | 0.691706871 | 0.151970571 | — | — | — | — | — | 0.151970571 | — | 0.014262728 | 0.000213253 | 0.010172154 | — |
| Antimony | Sb | 0.024412882 | 0.147780494 | 2.62865E-05 | 0.144575868 | — | — | — | 0.000257614 | 0.002920725 | 0.131858817 | 0.0000234 | 0.1287 | — | — | — | 0.000535417 | 0.0026 | 5.66595E-05 | 1.00959E-08 | 5.55277E-05 | — |
| Arsenic | As | 0.101224868 | 0.256713232 | 0.000102341 | 0.237636444 | — | — | — | 0.000366942 | 0.018607505 | 0.241628986 | 9.61976E-05 | 0.223370802 | — | — | — | 0.000671516 | 0.017490471 | 6.46309E-05 | 2.58026E-08 | 5.99137E-05 | — |
| Cadmium | Cd | 0.005752843 | 1.715584617 | 4.04744E-05 | 1.713476554 | — | — | — | 4.38707E-05 | 0.002023718 | 1.646964795 | 3.88561E-05 | 1.644967594 | — | — | — | 1.55411E-05 | 0.001942804 | 0.000230828 | 5.44586E-09 | 0.00023055 | — |
| Cobalt | Co | 0.622994786 | 0.451711467 | 0.000128253 | 0.387259387 | — | — | — | 0.000197418 | 0.064126409 | 0.416109546 | 0.000118076 | 0.356530675 | — | — | — | 0.000422763 | 0.059038032 | 0.000201252 | 5.71658E-08 | 0.000172612 | — |
| Copper | Cu | 0.204445169 | 5.009578524 | 0.00913171 | 4.868897055 | — | — | — | 0.001096767 | 0.130452993 | 4.917999289 | 0.008965199 | 4.780115798 | — | — | — | 0.000844027 | 0.128074265 | 0.000385066 | 7.02072E-07 | 0.000374335 | — |
| Cyanide | CN- | — | 0.001096767 | — | — | — | — | — | 0.001096767 | — | 0.000794436 | — | — | — | — | — | 0.000794436 | — | — | — | — | — |
| Lead | Pb | 0.752619876 | 9.868544756 | 3.2609E-05 | 9.808126342 | — | — | — | 0.001096767 | 0.059289038 | 8.071212491 | 2.66709E-05 | 8.022069125 | — | — | — | 0.000624175 | 0.04849252 | 0.005724115 | 1.89165E-08 | 0.005689702 | — |
| Mercury | Hg | 0.001428693 | 0.056099997 | 1.18585E-05 | 0.055828659 | — | — | — | 4.38707E-05 | 0.000215609 | 0.053048795 | 1.122E-05 | 0.052822721 | — | — | — | 1.08539E-05 | 0.000204 | 1.71485E-05 | 3.6277E-09 | 1.70789E-05 | — |
| Methyl-Mercury | Me-Hg | — | 4.38707E-05 | — | — | — | — | — | 4.38707E-05 | — | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 | — | — | — | — | — |
| Silver | Ag | 0.006628521 | 0.075946859 | 4.0827E-05 | 0.075142071 | — | — | — | 2.16514E-05 | 0.000742309 | 0.062477666 | 3.3562E-05 | 0.061770858 | — | — | — | 6.30271E-05 | 0.000610218 | 3.10947E-05 | 1.67205E-08 | 3.0774E-05 | — |
| Thallium | Tl | 0.001552233 | 0.138800178 | 8.82068E-06 | 0.137368523 | — | — | — | 6.5806E-05 | 0.001357028 | 0.133093512 | 0.00000845 | 0.13159575 | — | — | — | 0.000189312 | 0.0013 | 7.98519E-06 | 5.07696E-10 | 7.90658E-06 | — |
| Uranium | U | 0.004873865 | 0.274628155 | 1.7392E-06 | 0.270853953 | — | — | — | 0.001096767 | 0.002675695 | 0.26883196 | 0.00000169 | 0.2631915 | — | — | — | 0.00303877 | 0.0026 | 2.41659E-05 | 1.53654E-10 | 2.39293E-05 | — |
| Zinc | Zn | 2.308294771 | 27.01273193 | 0.020819095 | 26.60680323 | — | — | — | 0.006580601 | 0.378528997 | 24.97310312 | 0.019249331 | 24.60064534 | — | — | — | 0.003220605 | 0.349987841 | 0.007611698 | 5.86787E-06 | 0.007499141 | — |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.003877322 | 0.11473124 | 0.001715432 | 0.081826127 | — | — | — | — | 0.031189681 | 0.129025232 | 0.001929153 | 0.092020578 | — | — | — | — | 0.035075501 | 0.280956877 |
| Antimony | Sb | — | — | — | 1.12177E-06 | 0.00213313 | 1.40134E-07 | 0.000770736 | — | — | — | 0.001346683 | 1.55704E-05 | 0.000843238 | 1.50253E-07 | 0.000826393 | — | — | — | — | 1.66948E-05 | 0.001378654 |
| Arsenic | As | — | — | — | 4.69138E-06 | 0.006201777 | 2.91182E-07 | 0.000676124 | — | — | — | 0.005472419 | 5.29421E-05 | 0.000794143 | 3.17046E-07 | 0.000736181 | — | — | — | — | 5.76448E-05 | 0.001465658 |
| Cadmium | Cd | — | — | — | 2.72293E-07 | 0.003365085 | 7.89124E-08 | 0.003340747 | — | — | — | 2.03135E-05 | 3.94562E-06 | 0.003576194 | 8.43723E-08 | 0.003571891 | — | — | — | — | 4.21862E-06 | 0.003606954 |
| Cobalt | Co | — | — | — | 2.85829E-05 | 0.001614758 | 4.58673E-07 | 0.001384963 | — | — | — | — | 0.000229336 | 0.001816474 | 5.1597E-07 | 0.001557972 | — | — | — | — | 0.000257985 | 0.002184708 |
| Copper | Cu | — | — | — | 1.00296E-05 | 0.005077864 | 7.88688E-06 | 0.00420517 | — | — | — | 0.000752138 | 0.00011267 | 0.004711902 | 8.59097E-06 | 0.004580583 | — | — | — | — | 0.000122728 | 0.005593634 |
| Cyanide | CN- | — | — | — | — | 0.000709044 | — | — | — | — | — | 0.000709044 | — | — | — | — | — | — | — | — | — | 0.000794409 |
| Lead | Pb | — | — | — | 3.43936E-05 | 0.08881691 | 2.9132E-07 | 0.087623357 | — | — | — | 0.000663588 | 0.000529673 | 0.093890419 | 3.1028E-07 | 0.093325963 | — | — | — | — | 0.000564145 | 0.094685053 |
| Mercury | Hg | — | — | — | 6.59582E-08 | 0.000135711 | 2.87093E-08 | 0.000135161 | — | — | — | — | 5.21988E-07 | 0.0001529 | 3.23456E-08 | 0.00015228 | — | — | — | — | 5.88102E-07 | 0.000162368 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.46768E-06 |
| Silver | Ag | — | — | — | 3.04008E-07 | 0.000682416 | 3.66953E-07 | 0.000675377 | — | — | — | — | 6.67188E-06 | 0.000713582 | 3.83712E-07 | 0.000706222 | — | — | — | — | 6.97658E-06 | 0.000776609 |
| Thallium | Tl | — | — | — | 7.8107E-08 | 0.000303385 | 1.92891E-08 | 0.000300398 | — | — | — | — | 2.96755E-06 | 0.000311395 | 1.97984E-08 | 0.000308329 | — | — | — | — | 3.0459E-06 | 0.000500707 |
| Uranium | U | — | — | — | 2.36391E-07 | 0.000380413 | 2.41879E-09 | 0.000376689 | — | — | — | — | 3.72121E-06 | 0.000404646 | 2.57287E-09 | 0.000400685 | — | — | — | — | 3.95826E-06 | 0.003443416 |
| Zinc | Zn | — | — | — | 0.000106689 | 0.101325924 | 7.55888E-05 | 0.09660248 | — | — | — | 0.003273514 | 0.001374342 | 0.105682139 | 8.14706E-05 | 0.104119386 | — | — | — | — | 0.001481283 | 0.112599612 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001929153 | 0.092020578 | — | — | — | 0.151931645 | 0.035075501 | 0.166233299 | 0.000213253 | 0.010172154 | — | — | — | 0.151970571 | 0.003877322 | 0.266726118 | 0.001715432 | 0.081826127 | — | — | — |
| Antimony | Sb | 1.50253E-07 | 0.000826393 | — | — | — | 0.000535417 | 1.66948E-05 | 0.131915476 | 2.34101E-05 | 0.128755528 | — | — | — | 0.000535417 | 0.002601122 | 0.13345653 | 2.35401E-05 | 0.129470736 | — | — | — |
| Arsenic | As | 3.17046E-07 | 0.000736181 | — | — | — | 0.000671516 | 5.76448E-05 | 0.241693617 | 9.62234E-05 | 0.223430716 | — | — | — | 0.000671516 | 0.017495162 | 0.247159248 | 9.64888E-05 | 0.224046926 | — | — | — |
| Cadmium | Cd | 8.43723E-08 | 0.003571891 | — | — | — | 3.076E-05 | 4.21862E-06 | 1.647195623 | 3.88615E-05 | 1.645198143 | — | — | — | 1.55411E-05 | 0.001943077 | 1.650314339 | 3.8935E-05 | 1.648308341 | — | — | — |
| Cobalt | Co | 5.1597E-07 | 0.001557972 | — | — | — | 0.000368234 | 0.000257985 | 0.416310799 | 0.000118133 | 0.356703287 | — | — | — | 0.000422763 | 0.059066615 | 0.417698628 | 0.000118535 | 0.357915638 | — | — | — |
| Copper | Cu | 8.59097E-06 | 0.004580583 | — | — | — | 0.000881732 | 0.000122728 | 4.918384355 | 0.008965901 | 4.780490133 | — | — | — | 0.000844027 | 0.128084295 | 4.922325015 | 0.008973085 | 4.784320968 | — | — | — |
| Cyanide | CN- | — | — | — | — | — | 0.000794409 | — | 0.000794436 | — | — | — | — | — | 0.000794436 | — | 0.000794436 | — | — | — | — | — |
| Lead | Pb | 3.1028E-07 | 0.093325963 | — | — | — | 0.000794634 | 0.000564145 | 8.076936606 | 2.66898E-05 | 8.027758827 | — | — | — | 0.000624175 | 0.048526914 | 8.159405226 | 2.69622E-05 | 8.109692482 | — | — | — |
| Mercury | Hg | 3.23456E-08 | 0.00015228 | — | — | — | 9.46768E-06 | 5.88102E-07 | 0.053065944 | 1.12236E-05 | 0.0528398 | — | — | — | 1.08539E-05 | 0.000204066 | 0.053184508 | 1.12487E-05 | 0.052957882 | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 9.46768E-06 | — | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 | — | 1.0855E-05 | — | — | — | — | — |
| Silver | Ag | 3.83712E-07 | 0.000706222 | — | — | — | 6.30271E-05 | 6.97658E-06 | 0.06250876 | 3.35787E-05 | 0.061801632 | — | — | — | 6.30271E-05 | 0.000610522 | 0.063160082 | 3.3929E-05 | 0.062446236 | — | — | — |
| Thallium | Tl | 1.97984E-08 | 0.000308329 | — | — | — | 0.000189312 | 3.0459E-06 | 0.133101497 | 8.45051E-06 | 0.131603657 | — | — | — | 0.000189312 | 0.001300078 | 0.133396897 | 8.46929E-06 | 0.131896148 | — | — | — |
| Uranium | U | 2.57287E-09 | 0.000400685 | — | — | — | 0.00303877 | 3.95826E-06 | 0.268856126 | 1.69015E-06 | 0.263215429 | — | — | — | 0.00303877 | 0.002600236 | 0.269212373 | 1.69242E-06 | 0.263568189 | — | — | — |
| Zinc | Zn | 8.14706E-05 | 0.104119386 | — | — | — | 0.006917472 | 0.001481283 | 24.98071482 | 0.019255199 | 24.60814448 | — | — | — | 0.003220605 | 0.35009453 | 25.07120844 | 0.01932492 | 24.69724782 | — | — | — |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| **Phase** | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| **Media** | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.151994878 | 0.031189681 | 0.280995803 | 0.001929153 | 0.092020578 | — | — | — | 0.151970571 | 0.035075501 | 0.280956877 | 0.001929153 | 0.092020578 | — | — | — | 0.151931645 | 0.035075501 | 0.151970571 | — | — |
| Antimony | Sb | 0.001346683 | 0.00261557 | 0.132702054 | 2.35503E-05 | 0.129526393 | — | — | — | 0.000535417 | 0.002616695 | 0.132702054 | 2.35503E-05 | 0.129526393 | — | — | — | 0.000535417 | 0.002616695 | 0.131858817 | 0.0000234 | 0.1287 |
| Arsenic | As | 0.005472419 | 0.017543413 | 0.242423129 | 9.65146E-05 | 0.224106983 | — | — | — | 0.000671516 | 0.017548116 | 0.242423129 | 9.65146E-05 | 0.224106983 | — | — | — | 0.000671516 | 0.017548116 | 0.241628986 | 9.61976E-05 | 0.223370802 |
| Cadmium | Cd | 2.03135E-05 | 0.00194675 | 1.650540989 | 3.89405E-05 | 1.648539485 | — | — | — | 1.55411E-05 | 0.001947023 | 1.650556208 | 3.89405E-05 | 1.648539485 | — | — | — | 3.076E-05 | 0.001947023 | 1.646964795 | 3.88561E-05 | 1.644967594 |
| Cobalt | Co | 0.000397087 | 0.059267368 | 0.41792602 | 0.000118592 | 0.358088648 | — | — | — | 0.000422763 | 0.059296017 | 0.41788443 | 0.000118592 | 0.358088648 | — | — | — | 0.000381173 | 0.059296017 | 0.416109546 | 0.000118076 | 0.356530675 |
| Copper | Cu | 0.000844027 | 0.128186935 | 4.922711191 | 0.00897379 | 4.784696381 | — | — | — | 0.000844027 | 0.128196993 | 4.922748896 | 0.00897379 | 4.784696381 | — | — | — | 0.000881732 | 0.128196993 | 4.917999289 | 0.008965199 | 4.780115798 |
| Cyanide | CN- | 0.000794436 | — | 0.000794436 | — | — | — | — | — | 0.000794436 | — | 0.000794409 | — | — | — | — | — | 0.000794409 | — | 0.000794436 | — | — |
| Lead | Pb | 0.000663588 | 0.049022194 | 8.16510291 | 2.69812E-05 | 8.115395089 | — | — | — | 0.000624175 | 0.049056665 | 8.165273369 | 2.69812E-05 | 8.115395089 | — | — | — | 0.000794634 | 0.049056665 | 8.071212491 | 2.66709E-05 | 8.022069125 |
| Mercury | Hg | 1.0855E-05 | 0.000204522 | 0.053201696 | 1.12524E-05 | 0.052975001 | — | — | — | 1.08539E-05 | 0.000204588 | 0.053200309 | 1.12524E-05 | 0.052975001 | — | — | — | 9.46768E-06 | 0.000204588 | 0.053048795 | 1.122E-05 | 0.052822721 |
| Methyl-Mercury | Me-Hg | 1.0855E-05 | — | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 | — | 9.46768E-06 | — | — | — | — | — | 9.46768E-06 | — | 1.08539E-05 | — | — |
| Silver | Ag | 6.30271E-05 | 0.00061689 | 0.063191248 | 3.39457E-05 | 0.06247708 | — | — | — | 6.30271E-05 | 0.000617195 | 0.063191248 | 3.39457E-05 | 0.06247708 | — | — | — | 6.30271E-05 | 0.000617195 | 0.062477666 | 3.3562E-05 | 0.061770858 |
| Thallium | Tl | 0.000189312 | 0.001302968 | 0.133404907 | 8.4698E-06 | 0.131904079 | — | — | — | 0.000189312 | 0.001303046 | 0.133404907 | 8.4698E-06 | 0.131904079 | — | — | — | 0.000189312 | 0.001303046 | 0.133093512 | 0.00000845 | 0.13159575 |
| Uranium | U | 0.00303877 | 0.002603721 | 0.269236606 | 1.69257E-06 | 0.263592185 | — | — | — | 0.00303877 | 0.002603958 | 0.269236606 | 1.69257E-06 | 0.263592185 | — | — | — | 0.00303877 | 0.002603958 | 0.26883196 | 0.00000169 | 0.2631915 |
| Zinc | Zn | 0.003273514 | 0.351362183 | 25.07878526 | 0.019330802 | 24.70476473 | — | — | — | 0.003220605 | 0.351469124 | 25.08248213 | 0.019330802 | 24.70476473 | — | — | — | 0.006917472 | 0.351469124 | 24.97310312 | 0.019249331 | 24.60064534 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.151970571 | — | 0.014262728 | 0.000213253 | 0.010172154 | — | — | — | — | 0.003877322 | 0.11473124 | 0.001715432 | 0.081826127 | — | — | — | — | 0.031189681 |
| Antimony | Sb | — | — | — | 0.000535417 | 0.0026 | 5.66595E-05 | 1.00959E-08 | 5.55277E-05 | — | — | — | — | 1.12177E-06 | 0.00213313 | 1.40134E-07 | 0.000770736 | — | — | — | 0.001346683 | 1.55704E-05 |
| Arsenic | As | — | — | — | 0.000671516 | 0.017490471 | 6.46309E-05 | 2.58026E-08 | 5.99137E-05 | — | — | — | — | 4.69138E-06 | 0.006201777 | 2.91182E-07 | 0.000676124 | — | — | — | 0.005472419 | 5.29421E-05 |
| Cadmium | Cd | — | — | — | 1.55411E-05 | 0.001942804 | 0.000230828 | 5.44586E-09 | 0.00023055 | — | — | — | — | 2.72293E-07 | 0.003365085 | 7.89124E-08 | 0.003340747 | — | — | — | 2.03135E-05 | 3.94562E-06 |
| Cobalt | Co | — | — | — | 0.000422763 | 0.059038032 | 0.000201252 | 5.71658E-08 | 0.000172612 | — | — | — | — | 2.85829E-05 | 0.001614758 | 4.58673E-07 | 0.001384963 | — | — | — | — | 0.000229336 |
| Copper | Cu | — | — | — | 0.000844027 | 0.128074265 | 0.000385066 | 7.02072E-07 | 0.000374335 | — | — | — | — | 1.00296E-05 | 0.005077864 | 7.88688E-06 | 0.00420517 | — | — | — | 0.000752138 | 0.00011267 |
| Cyanide | CN- | — | — | — | 0.000794436 | — | — | — | — | — | — | — | — | — | 0.000709044 | — | — | — | — | — | 0.000709044 | — |
| Lead | Pb | — | — | — | 0.000624175 | 0.04849252 | 0.005724115 | 1.89165E-08 | 0.005689702 | — | — | — | — | 3.43936E-05 | 0.08881691 | 2.9132E-07 | 0.087623357 | — | — | — | 0.000663588 | 0.000529673 |
| Mercury | Hg | — | — | — | 1.08539E-05 | 0.000204 | 1.71485E-05 | 3.6277E-09 | 1.70789E-05 | — | — | — | — | 6.59582E-08 | 0.000135711 | 2.87093E-08 | 0.000135161 | — | — | — | — | 5.21988E-07 |
| Methyl-Mercury | Me-Hg | — | — | — | 1.08539E-05 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 6.30271E-05 | 0.000610218 | 3.10947E-05 | 1.67205E-08 | 3.0774E-05 | — | — | — | — | 3.04008E-07 | 0.000682416 | 3.66953E-07 | 0.000675377 | — | — | — | — | 6.67188E-06 |
| Thallium | Tl | — | — | — | 0.000189312 | 0.0013 | 7.98519E-06 | 5.07696E-10 | 7.90658E-06 | — | — | — | — | 7.8107E-08 | 0.000303385 | 1.92891E-08 | 0.000300398 | — | — | — | — | 2.96755E-06 |
| Uranium | U | — | — | — | 0.00303877 | 0.0026 | 2.41659E-05 | 1.53654E-10 | 2.39293E-05 | — | — | — | — | 2.36391E-07 | 0.000380413 | 2.41879E-09 | 0.000376689 | — | — | — | — | 3.72121E-06 |
| Zinc | Zn | — | — | — | 0.003220605 | 0.349987841 | 0.007611698 | 5.86787E-06 | 0.007499141 | — | — | — | — | 0.000106689 | 0.101325924 | 7.55888E-05 | 0.09660248 | — | — | — | 0.003273514 | 0.001374342 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| Phase | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.129025232 | 0.001929153 | 0.092020578 | — | — | — | — | 0.035075501 | 0.280956877 | 0.001929153 | 0.092020578 | — | — | — | 0.151931645 | 0.035075501 | 0.166233299 | 0.000213253 | 0.010172154 | — | — |
| Antimony | Sb | 0.000843238 | 1.50253E-07 | 0.000826393 | — | — | — | — | 1.66948E-05 | 0.001378654 | 1.50253E-07 | 0.000826393 | — | — | — | 0.000535417 | 1.66948E-05 | 0.131915476 | 2.34101E-05 | 0.128755528 | — | — |
| Arsenic | As | 0.000794143 | 3.17046E-07 | 0.000736181 | — | — | — | — | 5.76448E-05 | 0.001465658 | 3.17046E-07 | 0.000736181 | — | — | — | 0.000671516 | 5.76448E-05 | 0.241693617 | 9.62234E-05 | 0.223430716 | — | — |
| Cadmium | Cd | 0.003576194 | 8.43723E-08 | 0.003571891 | — | — | — | — | 4.21862E-06 | 0.003606954 | 8.43723E-08 | 0.003571891 | — | — | — | 3.076E-05 | 4.21862E-06 | 1.647195623 | 3.88615E-05 | 1.645198143 | — | — |
| Cobalt | Co | 0.001816474 | 5.1597E-07 | 0.001557972 | — | — | — | — | 0.000257985 | 0.002184708 | 5.1597E-07 | 0.001557972 | — | — | — | 0.000368234 | 0.000257985 | 0.416310799 | 0.000118133 | 0.356703287 | — | — |
| Copper | Cu | 0.004711902 | 8.59097E-06 | 0.004580583 | — | — | — | — | 0.000122728 | 0.005593634 | 8.59097E-06 | 0.004580583 | — | — | — | 0.000881732 | 0.000122728 | 4.918384355 | 0.008965901 | 4.780490133 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000794409 | — | — | — | — | — | 0.000794409 | — | 0.000794436 | — | — | — | — |
| Lead | Pb | 0.093890419 | 3.1028E-07 | 0.093325963 | — | — | — | — | 0.000564145 | 0.094685053 | 3.1028E-07 | 0.093325963 | — | — | — | 0.000794634 | 0.000564145 | 8.076936606 | 2.66898E-05 | 8.027758827 | — | — |
| Mercury | Hg | 0.0001529 | 3.23456E-08 | 0.00015228 | — | — | — | — | 5.88102E-07 | 0.000162368 | 3.23456E-08 | 0.00015228 | — | — | — | 9.46768E-06 | 5.88102E-07 | 0.053065944 | 1.12236E-05 | 0.0528398 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 9.46768E-06 | — | — | — | — | — | 9.46768E-06 | — | 1.08539E-05 | — | — | — | — |
| Silver | Ag | 0.000713582 | 3.83712E-07 | 0.000706222 | — | — | — | — | 6.97658E-06 | 0.000776609 | 3.83712E-07 | 0.000706222 | — | — | — | 6.30271E-05 | 6.97658E-06 | 0.06250876 | 3.35787E-05 | 0.061801632 | — | — |
| Thallium | Tl | 0.000311395 | 1.97984E-08 | 0.000308329 | — | — | — | — | 3.0459E-06 | 0.000500707 | 1.97984E-08 | 0.000308329 | — | — | — | 0.000189312 | 3.0459E-06 | 0.133101497 | 8.45051E-06 | 0.131603657 | — | — |
| Uranium | U | 0.000404646 | 2.57287E-09 | 0.000400685 | — | — | — | — | 3.95826E-06 | 0.003443416 | 2.57287E-09 | 0.000400685 | — | — | — | 0.00303877 | 3.95826E-06 | 0.268856126 | 1.69015E-06 | 0.263215429 | — | — |
| Zinc | Zn | 0.105682139 | 8.14706E-05 | 0.104119386 | — | — | — | — | 0.001481283 | 0.112599612 | 8.14706E-05 | 0.104119386 | — | — | — | 0.006917472 | 0.001481283 | 24.98071482 | 0.019255199 | 24.60814448 | — | — |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) | Total Dose to Barn Swallow (mg/kg/d) | Dose to Barn Swallow from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.151970571 | 0.003877322 | 0.266726118 | 0.001715432 | 0.081826127 | — | — | — | 0.151994878 | 0.031189681 | 0.280995803 | 0.001929153 | 0.092020578 | — | — | — | 0.151970571 | 0.035075501 | 0.280956877 | 0.001929153 |
| Antimony | Sb | — | 0.000535417 | 0.002601122 | 0.13345653 | 2.35401E-05 | 0.129470736 | — | — | — | 0.001346683 | 0.00261557 | 0.132702054 | 2.35503E-05 | 0.129526393 | — | — | — | 0.000535417 | 0.002616695 | 0.132702054 | 2.35503E-05 |
| Arsenic | As | — | 0.000671516 | 0.017495162 | 0.247159248 | 9.64888E-05 | 0.224046926 | — | — | — | 0.005472419 | 0.017543413 | 0.242423129 | 9.65146E-05 | 0.224106983 | — | — | — | 0.000671516 | 0.017548116 | 0.242423129 | 9.65146E-05 |
| Cadmium | Cd | — | 1.55411E-05 | 0.001943077 | 1.650314339 | 3.8935E-05 | 1.648308341 | — | — | — | 2.03135E-05 | 0.00194675 | 1.650540989 | 3.89405E-05 | 1.648539485 | — | — | — | 1.55411E-05 | 0.001947023 | 1.650556208 | 3.89405E-05 |
| Cobalt | Co | — | 0.000422763 | 0.059066615 | 0.417698628 | 0.000118535 | 0.357915638 | — | — | — | 0.000397087 | 0.059267368 | 0.41792602 | 0.000118592 | 0.358088648 | — | — | — | 0.000422763 | 0.059296017 | 0.41788443 | 0.000118592 |
| Copper | Cu | — | 0.000844027 | 0.128084295 | 4.922325015 | 0.008973085 | 4.784320968 | — | — | — | 0.000844027 | 0.128186935 | 4.922711191 | 0.00897379 | 4.784696381 | — | — | — | 0.000844027 | 0.128196993 | 4.922748896 | 0.00897379 |
| Cyanide | CN- | — | 0.000794436 | — | 0.000794436 | — | — | — | — | — | 0.000794436 | — | 0.000794436 | — | — | — | — | — | 0.000794436 | — | 0.000794409 | — |
| Lead | Pb | — | 0.000624175 | 0.048526914 | 8.159405226 | 2.69622E-05 | 8.109692482 | — | — | — | 0.000663588 | 0.049022194 | 8.16510291 | 2.69812E-05 | 8.115395089 | — | — | — | 0.000624175 | 0.049056665 | 8.165273369 | 2.69812E-05 |
| Mercury | Hg | — | 1.08539E-05 | 0.000204066 | 0.053184508 | 1.12487E-05 | 0.052957882 | — | — | — | 1.0855E-05 | 0.000204522 | 0.053201696 | 1.12524E-05 | 0.052975001 | — | — | — | 1.08539E-05 | 0.000204588 | 0.053200309 | 1.12524E-05 |
| Methyl-Mercury | Me-Hg | — | 1.08539E-05 | — | 1.0855E-05 | — | — | — | — | — | 1.0855E-05 | — | 1.08539E-05 | — | — | — | — | — | 1.08539E-05 | — | 9.46768E-06 | — |
| Silver | Ag | — | 6.30271E-05 | 0.000610522 | 0.063160082 | 3.3929E-05 | 0.062446236 | — | — | — | 6.30271E-05 | 0.00061689 | 0.063191248 | 3.39457E-05 | 0.06247708 | — | — | — | 6.30271E-05 | 0.000617195 | 0.063191248 | 3.39457E-05 |
| Thallium | Tl | — | 0.000189312 | 0.001300078 | 0.133396897 | 8.46929E-06 | 0.131896148 | — | — | — | 0.000189312 | 0.001302968 | 0.133404907 | 8.4698E-06 | 0.131904079 | — | — | — | 0.000189312 | 0.001303046 | 0.133404907 | 8.4698E-06 |
| Uranium | U | — | 0.00303877 | 0.002600236 | 0.269212373 | 1.69242E-06 | 0.263568189 | — | — | — | 0.00303877 | 0.002603721 | 0.269236606 | 1.69257E-06 | 0.263592185 | — | — | — | 0.00303877 | 0.002603958 | 0.269236606 | 1.69257E-06 |
| Zinc | Zn | — | 0.003220605 | 0.35009453 | 25.07120844 | 0.01932492 | 24.69724782 | — | — | — | 0.003273514 | 0.351362183 | 25.07878526 | 0.019330802 | 24.70476473 | — | — | — | 0.003220605 | 0.351469124 | 25.08248213 | 0.019330802 |

## Table VI-10A Estimated Ecological Exposure Dose: Barn Swallow

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Barn Swallow from the consumption of Invertebrate_1 (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of — (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Water (dry) (mg/kg/d) | Dose to Barn Swallow from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.092020578 | — | — | — | 0.151931645 | 0.035075501 |
| Antimony | Sb | 0.129526393 | — | — | — | 0.000535417 | 0.002616695 |
| Arsenic | As | 0.224106983 | — | — | — | 0.000671516 | 0.017548116 |
| Cadmium | Cd | 1.648539485 | — | — | — | 3.076E-05 | 0.001947023 |
| Cobalt | Co | 0.358088648 | — | — | — | 0.000381173 | 0.059296017 |
| Copper | Cu | 4.784696381 | — | — | — | 0.000881732 | 0.128196993 |
| Cyanide | CN- | — | — | — | — | 0.000794409 | — |
| Lead | Pb | 8.115395089 | — | — | — | 0.000794634 | 0.049056665 |
| Mercury | Hg | 0.052975001 | — | — | — | 9.46768E-06 | 0.000204588 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 9.46768E-06 | — |
| Silver | Ag | 0.06247708 | — | — | — | 6.30271E-05 | 0.000617195 |
| Thallium | Tl | 0.131904079 | — | — | — | 0.00189312 | 0.001303046 |
| Uranium | U | 0.263592185 | — | — | — | 0.00303877 | 0.002603958 |
| Zinc | Zn | 24.70476473 | — | — | — | 0.006917472 | 0.351469124 |

**Table VI-10B Estimated Ecological Risk: Barn Swallow**

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001385329 | 0.001385329 | 2.869254605 | 2.869254605 | 2.86965252 | 2.86965252 | 0.000397915 | 0.000397915 | 2.869254605 | 2.869254605 | 0.023344533 | 0.023344533 | 2.870639934 | 2.870639934 | 2.86965252 | 2.86965252 | 2.870639934 | 2.870639934 | 0.023344533 | 0.001385329 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.098223165 | 0.032652566 | 0.566879834 | 0.188449242 | 0.568484858 | 0.188982804 | 0.001605025 | 0.000533562 | 0.566879834 | 0.188449242 | 0.006404781 | 0.002129157 | 0.567152808 | 0.188539987 | 0.568484858 | 0.188982804 | 0.567152808 | 0.188539987 | 0.104354972 | 0.034690977 | 0.098223165 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.05467931 | 0.053347378 | 0.576413442 | 0.562372601 | 0.576528739 | 0.56248509 | 0.000115297 | 0.000112489 | 0.576413442 | 0.562372601 | 0.004733861 | 0.004618549 | 0.576468995 | 0.562426802 | 0.576528739 | 0.56248509 | 0.576468995 | 0.562426802 | 0.059357617 | 0.057911727 | 0.05467931 |
| Copper | Cu | 0.104638283 | 0.079322569 | 0.167005604 | 0.126601022 | 0.167089612 | 0.126664706 | 8.40077E-05 | 6.36832E-05 | 0.167005604 | 0.126601022 | 0.001966452 | 0.001490698 | 0.167023562 | 0.126614636 | 0.167089612 | 0.126664706 | 0.167023562 | 0.126614636 | 0.106586777 | 0.080799654 | 0.104638283 |
| Cyanide | CN- | — | 0.003783028 | — | — | — | 1.044539786 | — | 1.044539786 | — | — | — | 0.005222699 | — | 0.003783028 | — | 1.044539786 | — | 0.003783028 | — | 0.005222699 | — |
| Lead | Pb | 4.951664105 | 2.445821967 | 76.84551364 | 37.95702643 | 76.85654859 | 37.96247703 | 0.011034954 | 0.005450599 | 76.84551364 | 37.95702643 | 1.103040761 | 0.544835285 | 76.84589656 | 37.95721558 | 76.85654859 | 37.96247703 | 76.84589656 | 37.95721558 | 6.054321936 | 2.990468108 | 4.951664105 |
| Mercury | Hg | 0.117886212 | 0.058943106 | 0.825433488 | 0.412716744 | 0.826310902 | 0.413155451 | 0.000877413 | 0.000438707 | 0.825433488 | 0.412716744 | 0.006804568 | 0.003402284 | 0.825457608 | 0.412728804 | 0.826310902 | 0.413155451 | 0.825457608 | 0.412728804 | 0.12466666 | 0.06233333 | 0.117886212 |
| Methyl-Mercury | Me-Hg | 0.001695928 | 0.000169593 | — | — | 0.061693131 | 0.006169313 | 0.061693131 | 0.006169313 | — | — | 0.006854792 | 0.000685479 | 0.001695928 | 0.000169593 | 0.061693131 | 0.006169313 | 0.001695928 | 0.000169593 | 0.006854792 | 0.000685479 | 0.001695928 |
| Silver | Ag | 0.030929537 | 0.003092954 | 0.335634516 | 0.033563452 | 0.335639946 | 0.033563995 | 5.42954E-06 | 5.42954E-07 | 0.335634516 | 0.033563452 | 0.006699119 | 0.000669912 | 0.335665718 | 0.033566572 | 0.335639946 | 0.033563995 | 0.335665718 | 0.033566572 | 0.037597455 | 0.003759745 | 0.030929537 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 1.722282974 | 0.190634375 | 11.35760624 | 1.257139621 | 11.35821135 | 1.2572066 | 0.000605113 | 6.69781E-05 | 11.35760624 | 1.257139621 | 0.140886166 | 0.01559427 | 11.35782835 | 1.257164206 | 11.35821135 | 1.2572066 | 11.35782835 | 1.257164206 | 1.862947029 | 0.206204061 | 1.722282974 |

## Table VI-10B Estimated Ecological Risk: Barn Swallow

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| **Phase** | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001385329 | 0.000130016 | 0.000130016 | 0.001045864 | 0.001045864 | 0.001176164 | 0.001176164 | 0.002561138 | 0.002561138 | 0.001515345 | 0.001515345 | 0.002431414 | 0.002431414 | 0.002561493 | 0.002561493 | 0.002561138 | 0.002561138 | 0.001385329 | 0.001385329 | 0.000130016 | 0.000130016 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.032652566 | 2.62727E-05 | 8.7339E-06 | 0.002521048 | 0.000838078 | 0.000322822 | 0.000107317 | 0.000595796 | 0.000198062 | 0.098249438 | 0.0326613 | 0.100471239 | 0.033399898 | 0.098545987 | 0.032759882 | 0.098545987 | 0.032759882 | 0.098223165 | 0.032652566 | 2.62727E-05 | 8.7339E-06 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.053347378 | 2.64457E-05 | 2.58016E-05 | 0.000212189 | 0.00020702 | 0.000238696 | 0.000232881 | 0.000287084 | 0.000280091 | 0.054705755 | 0.053373179 | 0.054888125 | 0.053551106 | 0.054918005 | 0.053580259 | 0.05491254 | 0.053574927 | 0.05467931 | 0.053347378 | 2.64457E-05 | 2.58016E-05 |
| Copper | Cu | 0.079322569 | 8.1929E-06 | 6.21075E-06 | 0.00010804 | 8.1901E-05 | 0.000100253 | 7.59984E-05 | 0.000119013 | 9.02199E-05 | 0.104646476 | 0.07932878 | 0.104730319 | 0.079392339 | 0.104738536 | 0.079398568 | 0.104739338 | 0.079399176 | 0.104638283 | 0.079322569 | 8.1929E-06 | 6.21075E-06 |
| Cyanide | CN- | 0.003783028 | — | — | — | 0.003376398 | — | — | — | 0.003782901 | — | 0.003783028 | — | 0.003783028 | — | 0.003783028 | — | 0.003782901 | — | 0.003783028 | — | — |
| Lead | Pb | 2.445821967 | 0.003511727 | 0.00173458 | 0.054488902 | 0.026914215 | 0.057601484 | 0.028451642 | 0.058088989 | 0.02869244 | 4.955175832 | 2.447556547 | 5.005770077 | 2.472547038 | 5.009265589 | 2.474273609 | 5.009370165 | 2.474325263 | 4.951664105 | 2.445821967 | 0.003511727 | 0.00173458 |
| Mercury | Hg | 0.058943106 | 3.81077E-05 | 1.90538E-05 | 0.000301581 | 0.00015079 | 0.000339778 | 0.000169889 | 0.000360818 | 0.000180409 | 0.117924319 | 0.05896216 | 0.118187795 | 0.059093897 | 0.11822599 | 0.059112995 | 0.118222909 | 0.059111455 | 0.117886212 | 0.058943106 | 3.81077E-05 | 1.90538E-05 |
| Methyl-Mercury | Me-Hg | 0.000169593 | — | — | — | — | — | — | 0.001479325 | 0.000147933 | 0.001695928 | 0.000169593 | 0.001696094 | 0.000169609 | 0.001695928 | 0.000169593 | 0.001479325 | 0.000147933 | 0.001695928 | 0.000169593 | — | — |
| Silver | Ag | 0.003092954 | 1.53934E-05 | 1.53934E-06 | 0.00033783 | 3.3783E-05 | 0.000353259 | 3.53259E-05 | 0.00038446 | 3.8446E-05 | 0.030944931 | 0.003094493 | 0.031267367 | 0.003126737 | 0.031282796 | 0.00312828 | 0.031282796 | 0.00312828 | 0.030929537 | 0.003092954 | 1.53934E-05 | 1.53934E-06 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.190634375 | 0.000524945 | 5.81046E-05 | 0.006987995 | 0.00077348 | 0.007288423 | 0.000806734 | 0.00776549 | 0.000859539 | 1.722807918 | 0.19069248 | 1.729048858 | 0.191383271 | 1.729571397 | 0.191441109 | 1.729826354 | 0.191469329 | 1.722282974 | 0.190634375 | 0.000524945 | 5.81046E-05 |

## Table VI-10B Estimated Ecological Risk: Barn Swallow

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) | Risk to Barn Swallow (NOAELb) | Risk to Barn Swallow (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001045864 | 0.001045864 | 0.001176164 | 0.001176164 | 0.002561138 | 0.002561138 | 0.001515345 | 0.001515345 | 0.002431414 | 0.002431414 | 0.002561493 | 0.002561493 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.002521048 | 0.000838078 | 0.000322822 | 0.000107317 | 0.000595796 | 0.000198062 | 0.098249438 | 0.0326613 | 0.100471239 | 0.033399898 | 0.098545987 | 0.032759882 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000212189 | 0.00020702 | 0.000238696 | 0.000232881 | 0.000287084 | 0.000280091 | 0.054705755 | 0.053373179 | 0.054888125 | 0.053551106 | 0.054918005 | 0.053580259 |
| Copper | Cu | 0.00010804 | 8.1901E-05 | 0.000100253 | 7.59984E-05 | 0.000119013 | 9.02199E-05 | 0.104646476 | 0.07932878 | 0.104730319 | 0.079392339 | 0.104738536 | 0.079398568 |
| Cyanide | CN- | — | 0.003376398 | — | — | — | 0.003782901 | — | 0.003783028 | — | 0.003783028 | — | 0.003783028 |
| Lead | Pb | 0.054488902 | 0.026914215 | 0.057601484 | 0.028451642 | 0.058088989 | 0.02869244 | 4.955175832 | 2.447556547 | 5.005770077 | 2.472547038 | 5.009265589 | 2.474273609 |
| Mercury | Hg | 0.000301581 | 0.00015079 | 0.000339778 | 0.000169889 | 0.000360818 | 0.000180409 | 0.117924319 | 0.05896216 | 0.118187795 | 0.059093897 | 0.11822599 | 0.059112995 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.001479325 | 0.000147933 | 0.001695928 | 0.000169593 | 0.001696094 | 0.000169609 | 0.001695928 | 0.000169593 |
| Silver | Ag | 0.00033783 | 3.3783E-05 | 0.000353259 | 3.53259E-05 | 0.00038446 | 3.8446E-05 | 0.030944931 | 0.003094493 | 0.031267367 | 0.003126737 | 0.031282796 | 0.00312828 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.006987995 | 0.00077348 | 0.007288423 | 0.000806734 | 0.00776549 | 0.000859539 | 1.722807918 | 0.19069248 | 1.729048858 | 0.191383271 | 1.729571397 | 0.191441109 |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.039648666 | 3.82949E-05 | 1.15687E-07 | — | — | — | 0.039610255 | — | 10.33761006 | 0.464485131 | 4.02676E-05 | — | — | — | — | 9.873084665 | 10.34899856 | 0.46449613 | 4.03008E-05 | — | — |
| Antimony | Sb | 0.000443461 | 3.90658E-06 | 1.19932E-09 | — | — | — | 0.000139553 | 0.0003 | 0.002852825 | 3.59455E-05 | 8.70974E-09 | — | — | — | — | 0.002816871 | 0.002967236 | 3.60097E-05 | 8.93238E-09 | — | — |
| Arsenic | As | 0.002211447 | 1.82831E-05 | 6.19945E-09 | — | — | — | 0.000175027 | 0.002018131 | 0.011784247 | 0.000104422 | 3.19343E-08 | — | — | — | — | 0.011679792 | 0.01281478 | 0.000105834 | 3.59418E-08 | — | — |
| Cadmium | Cd | 0.00023874 | 1.05183E-05 | 9.28366E-10 | — | — | — | 4.05071E-06 | 0.00022417 | 0.000694935 | 3.11431E-05 | 2.74618E-09 | — | — | — | — | 0.00066379 | 0.000809307 | 3.11683E-05 | 2.7729E-09 | — | — |
| Cobalt | Co | 0.006924708 | 2.28789E-06 | 1.48739E-07 | — | — | — | 0.000110191 | 0.006812081 | 0.071909584 | 2.40461E-05 | 1.52428E-06 | — | — | — | — | 0.071884014 | 0.072138305 | 2.40651E-05 | 1.53318E-06 | — | — |
| Copper | Cu | 0.016439616 | 0.001441348 | 4.77939E-07 | — | — | — | 0.000219991 | 0.0147778 | 0.025890321 | 0.002299738 | 7.56097E-07 | — | — | — | — | 0.023589827 | 0.026922647 | 0.002302926 | 7.76134E-07 | — | — |
| Cyanide | CN- | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — | 0.000207065 | — | — | — | — | — | — | — | — | — | 0.057229244 | 5.52746E-05 | 7.79247E-07 | — | — |
| Lead | Pb | 0.005793453 | 3.54622E-05 | 1.24863E-08 | — | — | — | 0.000162688 | 0.005595291 | 0.087390965 | 0.000550018 | 1.92316E-07 | — | — | — | — | 0.086840755 | 0.092079852 | 0.0005507 | 1.95054E-07 | — | — |
| Mercury | Hg | 2.88885E-05 | 2.51793E-06 | 3.07546E-09 | — | — | — | 2.82902E-06 | 2.35385E-05 | 0.000182485 | 1.76149E-05 | 2.11529E-08 | — | — | — | — | 0.000164849 | 0.000285498 | 1.77144E-05 | 2.31566E-08 | — | — |
| Methyl-Mercury | Me-Hg | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 | — | — | — | 2.82902E-06 | — | — | — | — | — | — | — | — | — | 0.000102913 | 7.64929E-10 | 1.56295E-10 | — | — |
| Silver | Ag | 8.88055E-05 | 1.96692E-06 | 1.15735E-09 | — | — | — | 1.64276E-05 | 7.04098E-05 | 0.000786034 | 2.11933E-05 | 1.15294E-08 | — | — | — | — | 0.000764829 | 0.000788896 | 2.1196E-05 | 1.15461E-08 | — | — |
| Thallium | Tl | 0.000201636 | 2.26006E-06 | 3.27084E-08 | — | — | — | 4.93431E-05 | 0.00015 | 0.000181804 | 2.66549E-06 | 3.44661E-08 | — | — | — | — | 0.000179104 | 0.036910456 | 2.32704E-05 | 2.89319E-06 | — | — |
| Uranium | U | 0.001092407 | 3.68911E-07 | 2.72003E-10 | — | — | — | 0.000792038 | 0.0003 | 0.000562999 | 6.29808E-07 | 2.46467E-10 | — | — | — | — | 0.000562369 | 0.000848877 | 6.41695E-07 | 2.97185E-10 | — | — |
| Zinc | Zn | 0.125817902 | 0.084595242 | 1.54124E-08 | — | — | — | 0.000839432 | 0.040383212 | 0.823916995 | 0.55757519 | 1.0068E-07 | — | — | — | — | 0.266341704 | 0.826352891 | 0.557724158 | 1.01081E-07 | — | — |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.011377465 | 9.873084665 | 10.33761006 | 0.464485131 | 4.02676E-05 | — | — | — | — | 9.873084665 | 0.087859623 | 0.003758964 | 3.3804E-07 | — | — | — | 0.004287989 | 0.079812331 | 10.37725873 | 0.464523426 |
| Antimony | Sb | — | 0.000114346 | 0.002816871 | 0.002852825 | 3.59455E-05 | 8.70974E-09 | — | — | — | — | 0.002816871 | 0.000104663 | 5.09928E-07 | 2.45163E-10 | — | — | — | 6.71457E-05 | 3.70067E-05 | 0.002992457 | 3.60239E-05 |
| Arsenic | As | — | 0.001029117 | 0.011679792 | 0.011784247 | 0.000104422 | 3.19343E-08 | — | — | — | — | 0.011679792 | 0.000225814 | 1.28356E-06 | 7.24844E-10 | — | — | — | 9.56413E-05 | 0.000128889 | 0.011959514 | 0.000104662 |
| Cadmium | Cd | — | 0.000114346 | 0.00066379 | 0.000694935 | 3.11431E-05 | 2.74618E-09 | — | — | — | — | 0.00066379 | 2.12114E-05 | 4.4055E-07 | 4.12965E-11 | — | — | — | 1.14346E-05 | 9.33613E-06 | 0.000698987 | 3.1144E-05 |
| Cobalt | Co | — | 0.000228693 | 0.071884014 | 0.071909584 | 2.40461E-05 | 1.52428E-06 | — | — | — | — | 0.071884014 | 0.000638791 | 2.00678E-07 | 1.44535E-08 | — | — | — | 5.14559E-05 | 0.00058712 | 0.072019788 | 2.40552E-05 |
| Copper | Cu | — | 0.001029117 | 0.023589827 | 0.025890321 | 0.002299738 | 7.56097E-07 | — | — | — | — | 0.023589827 | 0.000587992 | 2.76431E-05 | 1.43633E-08 | — | — | — | 0.000285866 | 0.000274469 | 0.026110998 | 0.00230042 |
| Cyanide | CN- | — | 0.05717319 | — | — | — | — | — | — | — | — | — | 0.000286146 | 2.76373E-07 | 3.89624E-09 | — | — | — | 0.000285866 | — | 0.000207268 | 2.00189E-07 |
| Lead | Pb | — | 0.004688202 | 0.086840755 | 0.087390965 | 0.000550018 | 1.92316E-07 | — | — | — | — | 0.086840755 | 0.001539553 | 7.93175E-06 | 2.9258E-09 | — | — | — | 0.000285866 | 0.001245752 | 0.087553676 | 0.000550041 |
| Mercury | Hg | — | 0.000102912 | 0.000164849 | 0.000182485 | 1.76149E-05 | 2.11529E-08 | — | — | — | — | 0.000164849 | 1.29287E-05 | 1.54185E-07 | 3.9452E-10 | — | — | — | 1.14346E-05 | 1.33949E-06 | 0.000185317 | 1.76176E-05 |
| Methyl-Mercury | Me-Hg | — | 0.000102912 | — | — | — | — | — | — | — | — | — | 1.14347E-05 | 8.49921E-11 | 1.73661E-11 | — | — | — | 1.14346E-05 | — | 2.82904E-06 | 2.10277E-11 |
| Silver | Ag | — | 2.85866E-06 | 0.000764829 | 0.000786034 | 2.11933E-05 | 1.15294E-08 | — | — | — | — | 0.000764829 | 2.13126E-05 | 4.27788E-07 | 2.62717E-10 | — | — | — | 5.64332E-06 | 1.52412E-05 | 0.000802478 | 2.12092E-05 |
| Thallium | Tl | — | 0.036705188 | 0.000179104 | 0.000181804 | 2.66549E-06 | 3.44661E-08 | — | — | — | — | 0.000179104 | 2.38422E-05 | 1.07556E-07 | 2.60211E-09 | — | — | — | 1.7152E-05 | 6.58012E-06 | 0.000231178 | 2.69319E-06 |
| Uranium | U | — | 0.000285866 | 0.000562369 | 0.000562999 | 6.29808E-07 | 2.46467E-10 | — | — | — | — | 0.000562369 | 0.000294622 | 2.16685E-08 | 5.4546E-11 | — | — | — | 0.000285866 | 8.73408E-06 | 0.00135507 | 6.62743E-07 |
| Zinc | Zn | — | 0.002286928 | 0.266341704 | 0.823916995 | 0.55757519 | 1.0068E-07 | — | — | — | — | 0.266341704 | 0.012014331 | 0.007005924 | 1.54544E-09 | — | — | — | 0.001715196 | 0.00329321 | 0.824811107 | 0.557629869 |

**Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 4.03833E-05 | — | — | — | 0.039610255 | 9.873084665 | 10.34899856 | 0.46449613 | 4.03008E-05 | — | — | — | 0.011377465 | 9.873084665 | 10.37725873 | 0.464523426 | 4.03833E-05 | — | — | — | 0.039610255 |
| Antimony | Sb | 8.98146E-09 | — | — | — | 0.000139553 | 0.002816871 | 0.002967236 | 3.60097E-05 | 8.93238E-09 | — | — | — | 0.000114346 | 0.002816871 | 0.002992457 | 3.60239E-05 | 8.98146E-09 | — | — | — | 0.000139553 |
| Arsenic | As | 3.26159E-08 | — | — | — | 0.000175027 | 0.011679792 | 0.01281478 | 0.000105834 | 3.59418E-08 | — | — | — | 0.001029117 | 0.011679792 | 0.011959514 | 0.000104662 | 3.26159E-08 | — | — | — | 0.000175027 |
| Cadmium | Cd | 2.74713E-09 | — | — | — | 4.05071E-06 | 0.00066379 | 0.000809307 | 3.11683E-05 | 2.7729E-09 | — | — | — | 0.000114346 | 0.00066379 | 0.000698987 | 3.1144E-05 | 2.74713E-09 | — | — | — | 4.05071E-06 |
| Cobalt | Co | 1.52857E-06 | — | — | — | 0.000110191 | 0.071884014 | 0.072138305 | 2.40651E-05 | 1.53318E-06 | — | — | — | 0.000228693 | 0.071884014 | 0.072019788 | 2.40552E-05 | 1.52857E-06 | — | — | — | 0.000110191 |
| Copper | Cu | 7.6038E-07 | — | — | — | 0.000219991 | 0.023589827 | 0.026922647 | 0.002302926 | 7.76134E-07 | — | — | — | 0.001029117 | 0.023589827 | 0.026110998 | 0.00230042 | 7.6038E-07 | — | — | — | 0.000219991 |
| Cyanide | CN- | 2.82221E-09 | — | — | — | 0.000207065 | — | 0.057229244 | 5.52746E-05 | 7.79247E-07 | — | — | — | 0.05717319 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — | 0.000207065 |
| Lead | Pb | 1.92411E-07 | — | — | — | 0.000162688 | 0.086840755 | 0.092079852 | 0.0005507 | 1.95054E-07 | — | — | — | 0.004688202 | 0.086840755 | 0.087553676 | 0.000550041 | 1.92411E-07 | — | — | — | 0.000162688 |
| Mercury | Hg | 2.12079E-08 | — | — | — | 2.82902E-06 | 0.000164849 | 0.000285498 | 1.77144E-05 | 2.31566E-08 | — | — | — | 0.000102912 | 0.000164849 | 0.000185317 | 1.76176E-05 | 2.12079E-08 | — | — | — | 2.82902E-06 |
| Methyl-Mercury | Me-Hg | 4.2965E-12 | — | — | — | 2.82902E-06 | — | 0.000102913 | 7.64929E-10 | 1.56295E-10 | — | — | — | 0.000102912 | — | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 | — | — | — | 2.82902E-06 |
| Silver | Ag | 1.16253E-08 | — | — | — | 1.64276E-05 | 0.000764829 | 0.000788896 | 2.1196E-05 | 1.15461E-08 | — | — | — | 2.85866E-06 | 0.000764829 | 0.000802478 | 2.12092E-05 | 1.16253E-08 | — | — | — | 1.64276E-05 |
| Thallium | Tl | 3.83091E-08 | — | — | — | 4.93431E-05 | 0.000179104 | 0.036910456 | 2.32704E-05 | 2.89319E-06 | — | — | — | 0.036705188 | 0.000179104 | 0.000231178 | 2.69319E-06 | 3.83091E-08 | — | — | — | 4.93431E-05 |
| Uranium | U | 3.8699E-10 | — | — | — | 0.000792038 | 0.000562369 | 0.000848877 | 6.41695E-07 | 2.97185E-10 | — | — | — | 0.000285866 | 0.000562369 | 0.00135507 | 6.62743E-07 | 3.8699E-10 | — | — | — | 0.000792038 |
| Zinc | Zn | 1.00827E-07 | — | — | — | 0.000839432 | 0.266341704 | 0.826352891 | 0.557724158 | 1.01081E-07 | — | — | — | 0.002286928 | 0.266341704 | 0.824811107 | 0.557629869 | 1.00827E-07 | — | — | — | 0.000839432 |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 9.873084665 | 0.087859623 | 0.003758964 | 3.3804E-07 | — | — | — | 0.004287989 | 0.079812331 | 0.039648666 | 3.82949E-05 | 1.15687E-07 | — | — | — | 0.039610255 | — | 0.000468433 | 2.10474E-05 | 1.82466E-09 | — |
| Antimony | Sb | 0.002816871 | 0.000408492 | 4.33817E-06 | 1.17276E-09 | — | — | — | 6.71457E-05 | 0.000337007 | 0.000443461 | 3.90658E-06 | 1.19932E-09 | — | — | — | 0.000139553 | 0.0003 | 1.31087E-07 | 1.6517E-09 | 4.00212E-13 | — |
| Arsenic | As | 0.011679792 | 0.002261994 | 1.93265E-05 | 6.24271E-09 | — | — | — | 9.56413E-05 | 0.00214702 | 0.002211447 | 1.82831E-05 | 6.19945E-09 | — | — | — | 0.000175027 | 0.002018131 | 5.46155E-07 | 4.83957E-09 | 1.48003E-12 | — |
| Cadmium | Cd | 0.00066379 | 0.000255899 | 1.09579E-05 | 9.68716E-10 | — | — | — | 1.14346E-05 | 0.000233506 | 0.00023874 | 1.05183E-05 | 9.28366E-10 | — | — | — | 4.05071E-06 | 0.00022417 | 3.28926E-08 | 1.47406E-09 | 1.29982E-13 | — |
| Cobalt | Co | 0.071884014 | 0.007453295 | 2.4794E-06 | 1.58901E-07 | — | — | — | 5.14559E-05 | 0.007399201 | 0.006924708 | 2.28789E-06 | 1.48739E-07 | — | — | — | 0.000110191 | 0.006812081 | 3.2992E-06 | 1.10323E-09 | 6.99336E-11 | — |
| Copper | Cu | 0.023589827 | 0.016806932 | 0.001468309 | 4.88018E-07 | — | — | — | 0.000285866 | 0.015052268 | 0.016439616 | 0.001441348 | 4.77939E-07 | — | — | — | 0.00021991 | 0.0147778 | 1.27012E-06 | 1.1282E-07 | 3.70923E-11 | — |
| Cyanide | CN- | — | 0.000286146 | 2.76373E-07 | 3.89624E-09 | — | — | — | 0.000285866 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — | 0.000207065 | — | — | — | — | — |
| Lead | Pb | 0.086840755 | 0.007170294 | 4.33703E-05 | 1.5317E-08 | — | — | — | 0.000285866 | 0.006841043 | 0.005793453 | 3.54622E-05 | 1.24863E-08 | — | — | — | 0.000162688 | 0.005595291 | 3.99364E-06 | 2.5135E-08 | 8.78856E-12 | — |
| Mercury | Hg | 0.000164849 | 3.89854E-05 | 2.66938E-06 | 3.4149E-09 | — | — | — | 1.14346E-05 | 2.4878E-05 | 2.88885E-05 | 2.51793E-06 | 3.07546E-09 | — | — | — | 2.82902E-06 | 2.35385E-05 | 8.42477E-09 | 8.13224E-10 | 9.76561E-13 | — |
| Methyl-Mercury | Me-Hg | — | 1.14347E-05 | 8.49921E-11 | 1.73661E-11 | — | — | — | 1.14346E-05 | — | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 | — | — | — | 2.82902E-06 | — | — | — | — | — |
| Silver | Ag | 0.000764829 | 9.36745E-05 | 2.37883E-06 | 1.32411E-09 | — | — | — | 5.64332E-06 | 8.5651E-05 | 8.88055E-05 | 1.96692E-06 | 1.15735E-09 | — | — | — | 1.64276E-05 | 7.04098E-05 | 3.60504E-08 | 9.72001E-10 | 5.28779E-13 | — |
| Thallium | Tl | 0.000179104 | 0.000176103 | 2.33991E-06 | 3.14675E-08 | — | — | — | 1.7152E-05 | 0.00015658 | 0.000201636 | 2.26006E-06 | 3.27084E-08 | — | — | — | 4.93431E-05 | 0.00015 | 9.14821E-09 | 1.34125E-10 | 1.7343E-12 | — |
| Uranium | U | 0.000562369 | 0.000594958 | 3.57644E-07 | 1.86026E-10 | — | — | — | 0.000285866 | 0.000308734 | 0.001092407 | 3.68911E-07 | 2.72003E-10 | — | — | — | 0.000792038 | 0.0003 | 2.73065E-08 | 3.05469E-11 | 1.19541E-14 | — |
| Zinc | Zn | 0.266341704 | 0.136938121 | 0.091546486 | 1.68107E-08 | — | — | — | 0.001715196 | 0.043676423 | 0.125817902 | 0.084595242 | 1.54124E-08 | — | — | — | 0.000839432 | 0.040383212 | 3.80812E-05 | 2.57709E-05 | 4.6534E-12 | — |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.000447383 | 0.003768132 | 0.000169308 | 1.46778E-08 | — | — | — | — | 0.003598809 | 0.004237591 | 0.000190402 | 1.65065E-08 | — | — | — | — | 0.004047173 | 0.043876101 |
| Antimony | Sb | — | — | — | 1.29435E-07 | 0.000353023 | 2.19967E-07 | 6.88992E-10 | — | — | — | 0.000351005 | 1.79659E-06 | 1.95091E-06 | 2.45814E-08 | 5.95617E-12 | — | — | — | — | 1.92632E-06 | 0.000141583 |
| Arsenic | As | — | — | — | 5.41314E-07 | 0.001434481 | 2.01189E-06 | 5.57117E-09 | — | — | — | 0.001426355 | 6.10871E-06 | 6.7108E-06 | 5.94655E-08 | 1.81857E-11 | — | — | — | — | 6.65132E-06 | 0.000181978 |
| Cadmium | Cd | — | — | — | 3.14184E-08 | 5.77239E-06 | 2.25293E-08 | 3.12057E-12 | — | — | — | 5.29459E-06 | 4.55264E-07 | 5.09603E-07 | 2.28375E-08 | 2.0138E-12 | — | — | — | — | 4.86763E-07 | 8.52878E-06 |
| Cobalt | Co | — | — | — | 3.29803E-06 | 2.64713E-05 | 8.85182E-09 | 5.61116E-10 | — | — | — | — | 2.64619E-05 | 2.97781E-05 | 9.95759E-09 | 6.31211E-10 | — | — | — | — | 2.97675E-05 | 0.000125768 |
| Copper | Cu | — | — | — | 1.15726E-06 | 0.00021092 | 1.8747E-06 | 4.23375E-09 | — | — | — | 0.00019604 | 1.30003E-05 | 1.55419E-05 | 1.38053E-06 | 4.53884E-10 | — | — | — | — | 1.41609E-05 | 0.000246077 |
| Cyanide | CN- | — | — | — | — | 0.000184989 | 1.78671E-07 | 2.51886E-09 | — | — | — | 0.000184808 | — | — | — | — | — | — | — | — | — | 0.000207261 |
| Lead | Pb | — | — | — | 3.96849E-06 | 0.000234489 | 4.1226E-07 | 2.36377E-10 | — | — | — | 0.00017296 | 6.11162E-05 | 6.55061E-05 | 4.1228E-07 | 1.44155E-10 | — | — | — | — | 6.50937E-05 | 0.000272653 |
| Mercury | Hg | — | — | — | 7.61057E-09 | 6.66729E-08 | 6.43579E-09 | 7.72842E-12 | — | — | — | — | 6.02294E-08 | 7.51175E-08 | 7.25093E-09 | 8.70728E-12 | — | — | — | — | 6.78579E-08 | 2.54525E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.46772E-06 |
| Silver | Ag | — | — | — | 3.50779E-08 | 7.91175E-07 | 2.13319E-08 | 1.16048E-11 | — | — | — | — | 7.69832E-07 | 8.27309E-07 | 2.23061E-08 | 1.21348E-11 | — | — | — | — | 8.0499E-07 | 1.72709E-05 |
| Thallium | Tl | — | — | — | 9.01235E-09 | 3.47572E-07 | 5.09588E-09 | 6.58921E-11 | — | — | — | — | 3.4241E-07 | 3.56748E-07 | 5.23042E-09 | 6.76317E-11 | — | — | — | — | 3.5145E-07 | 4.97314E-05 |
| Uranium | U | — | — | — | 2.72759E-08 | 4.29852E-07 | 4.80861E-10 | 1.88178E-13 | — | — | — | — | 4.29371E-07 | 4.57234E-07 | 5.11493E-10 | 2.00166E-13 | — | — | — | — | 4.56723E-07 | 0.000792528 |
| Zinc | Zn | — | — | — | 1.23102E-05 | 0.001399355 | 0.000387554 | 2.09461E-10 | — | — | — | 0.000853223 | 0.000158578 | 0.000528725 | 0.000357808 | 6.46086E-11 | — | — | — | — | 0.000170917 | 0.002449171 |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000228687 | 1.32164E-07 | — | — | — | 0.039600109 | 0.004047173 | 0.040117098 | 5.93423E-05 | 1.17511E-07 | — | — | — | 0.039610255 | 0.000447383 | 0.043423139 | 0.000207609 | 1.30383E-07 | — | — | — |
| Antimony | Sb | 1.02921E-07 | 2.77678E-10 | — | — | — | 0.000139553 | 1.92632E-06 | 0.000443592 | 3.90823E-06 | 1.19972E-09 | — | — | — | 0.000139553 | 0.000300129 | 0.000656852 | 4.04821E-06 | 1.61659E-09 | — | — | — |
| Arsenic | As | 2.99641E-07 | 6.99769E-10 | — | — | — | 0.000175027 | 6.65132E-06 | 0.002211993 | 1.82879E-05 | 6.20093E-09 | — | — | — | 0.000175027 | 0.002018673 | 0.003470661 | 2.00548E-05 | 1.1089E-08 | — | — | — |
| Cadmium | Cd | 2.46086E-08 | 3.88707E-12 | — | — | — | 8.01741E-06 | 4.86763E-07 | 0.000238773 | 1.05198E-05 | 9.28496E-10 | — | — | — | 4.05071E-06 | 0.000224201 | 0.00024046 | 1.05399E-05 | 9.3054E-10 | — | — | — |
| Cobalt | Co | 1.79396E-08 | 4.36876E-09 | — | — | — | 9.59781E-05 | 2.97675E-05 | 0.006928007 | 2.28899E-06 | 1.48809E-07 | — | — | — | 0.000110191 | 0.006815379 | 0.006944486 | 2.29618E-06 | 1.49039E-07 | — | — | — |
| Copper | Cu | 2.09248E-06 | 4.92864E-09 | — | — | — | 0.000229818 | 1.41609E-05 | 0.016440886 | 0.001441461 | 4.77976E-07 | — | — | — | 0.000219991 | 0.014778957 | 0.016453885 | 0.001442615 | 4.78355E-07 | — | — | — |
| Cyanide | CN- | 2.00182E-07 | 2.82212E-09 | — | — | — | 0.000207058 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — | 0.000207065 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — |
| Lead | Pb | 4.42423E-07 | 2.65137E-10 | — | — | — | 0.000207117 | 6.50937E-05 | 0.005797447 | 3.54874E-05 | 1.2495E-08 | — | — | — | 0.000162688 | 0.005599259 | 0.005865231 | 3.58508E-05 | 1.26276E-08 | — | — | — |
| Mercury | Hg | 9.63668E-09 | 5.67554E-11 | — | — | — | 2.4677E-06 | 6.78579E-08 | 2.88969E-05 | 2.51875E-06 | 3.07644E-09 | — | — | — | 2.82902E-06 | 2.35461E-05 | 2.89555E-05 | 2.52437E-06 | 3.08319E-09 | — | — | — |
| Methyl-Mercury | Me-Hg | 1.8342E-11 | 3.74775E-12 | — | — | — | 2.4677E-06 | — | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 | — | — | — | 2.82902E-06 | — | 2.82932E-06 | 2.10298E-11 | 4.29692E-12 | — | — | — |
| Silver | Ag | 3.81882E-08 | 1.08093E-10 | — | — | — | 1.64276E-05 | 8.0499E-07 | 8.88416E-05 | 1.9679E-06 | 1.15788E-09 | — | — | — | 1.64276E-05 | 7.04449E-05 | 8.95967E-05 | 1.98826E-06 | 1.16895E-09 | — | — | — |
| Thallium | Tl | 3.29298E-08 | 3.91064E-09 | — | — | — | 4.93431E-05 | 3.5145E-07 | 0.000201645 | 2.26019E-06 | 3.27102E-08 | — | — | — | 4.93431E-05 | 0.000150009 | 0.000201983 | 2.26515E-06 | 3.27743E-08 | — | — | — |
| Uranium | U | 3.34464E-08 | 1.40723E-10 | — | — | — | 0.000792038 | 4.56723E-07 | 0.001092434 | 3.68941E-07 | 2.72015E-10 | — | — | — | 0.000792038 | 0.000300027 | 0.001092837 | 3.69392E-07 | 2.72191E-10 | — | — | — |
| Zinc | Zn | 0.000475254 | 3.80562E-10 | — | — | — | 0.001802999 | 0.000170917 | 0.125855983 | 0.084621012 | 1.5417E-08 | — | — | — | 0.000839432 | 0.040395523 | 0.126323144 | 0.084928116 | 1.54747E-08 | — | — | — |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.03961659 | 0.003598809 | 0.043886257 | 0.000228697 | 1.32193E-07 | — | — | — | 0.039610255 | 0.004047173 | 0.043876101 | 0.000228687 | 1.32164E-07 | — | — | — | 0.039600109 | 0.004047173 | 0.039648666 | 3.82949E-05 | 1.15687E-07 |
| Antimony | Sb | 0.000351005 | 0.000301797 | 0.000445412 | 3.93116E-06 | 1.20528E-09 | — | — | — | 0.000139553 | 0.000301926 | 0.000445412 | 3.93116E-06 | 1.20528E-09 | — | — | — | 0.000139553 | 0.000301926 | 0.000443461 | 3.90658E-06 | 1.19932E-09 |
| Arsenic | As | 0.001426355 | 0.00202424 | 0.002218158 | 1.83426E-05 | 6.21764E-09 | — | — | — | 0.000175027 | 0.002024783 | 0.002218158 | 1.83426E-05 | 6.21764E-09 | — | — | — | 0.000175027 | 0.002024783 | 0.002211447 | 1.82831E-05 | 6.19945E-09 |
| Cadmium | Cd | 5.29459E-06 | 0.000224625 | 0.000239249 | 1.05411E-05 | 9.30379E-10 | — | — | — | 4.05071E-06 | 0.000224656 | 0.000243217 | 1.0542E-05 | 9.31306E-10 | — | — | — | 8.01741E-06 | 0.000224656 | 0.00023874 | 1.05183E-05 | 9.28366E-10 |
| Cobalt | Co | 0.000103499 | 0.006838543 | 0.006954486 | 2.29784E-06 | 1.4937E-07 | — | — | — | 0.000110191 | 0.006841848 | 0.006943645 | 2.29694E-06 | 1.48948E-07 | — | — | — | 9.93506E-05 | 0.006841848 | 0.006924708 | 2.28789E-06 | 1.48739E-07 |
| Copper | Cu | 0.000219991 | 0.0147908 | 0.016455158 | 0.001442728 | 4.78392E-07 | — | — | — | 0.000219991 | 0.014791961 | 0.016465017 | 0.001442759 | 4.78584E-07 | — | — | — | 0.000229818 | 0.014791961 | 0.016439616 | 0.001441348 | 4.77939E-07 |
| Cyanide | CN- | 0.000207065 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 | — | — | — | 0.000207065 | — | 0.000207261 | 2.00182E-07 | 2.82212E-09 | — | — | — | 0.000207058 | — | 0.000207268 | 2.00189E-07 | 2.82221E-09 |
| Lead | Pb | 0.00017296 | 0.005656407 | 0.005858959 | 3.58745E-05 | 1.26304E-08 | — | — | — | 0.000162688 | 0.005660384 | 0.005903395 | 3.5881E-05 | 1.26564E-08 | — | — | — | 0.000207117 | 0.005660384 | 0.005793453 | 3.54622E-05 | 1.24863E-08 |
| Mercury | Hg | 2.82929E-06 | 2.35987E-05 | 2.89636E-05 | 2.52518E-06 | 3.08417E-09 | — | — | — | 2.82902E-06 | 2.36064E-05 | 2.8602E-05 | 2.52483E-06 | 3.07713E-09 | — | — | — | 2.4677E-06 | 2.36064E-05 | 2.88885E-05 | 2.51793E-06 | 3.07546E-09 |
| Methyl-Mercury | Me-Hg | 2.82929E-06 | — | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 | — | — | — | 2.82902E-06 | — | 2.46772E-06 | 1.8342E-11 | 3.74775E-12 | — | — | — | 2.4677E-06 | — | 2.82904E-06 | 2.10277E-11 | 4.2965E-12 |
| Silver | Ag | 1.64276E-05 | 7.11796E-05 | 8.96328E-05 | 1.98923E-06 | 1.16948E-09 | — | — | — | 1.64276E-05 | 7.12148E-05 | 8.96328E-05 | 1.98923E-06 | 1.16948E-09 | — | — | — | 1.64276E-05 | 7.12148E-05 | 8.88055E-05 | 1.96692E-06 | 1.15735E-09 |
| Thallium | Tl | 4.93431E-05 | 0.000150342 | 0.000201993 | 2.26529E-06 | 3.27761E-08 | — | — | — | 4.93431E-05 | 0.000150351 | 0.000201993 | 2.26529E-06 | 3.27761E-08 | — | — | — | 4.93431E-05 | 0.000150351 | 0.000201636 | 2.26006E-06 | 3.27084E-08 |
| Uranium | U | 0.000792038 | 0.000300429 | 0.001092864 | 3.69422E-07 | 2.72203E-10 | — | — | — | 0.000792038 | 0.000300457 | 0.001092864 | 3.69422E-07 | 2.72203E-10 | — | — | — | 0.000792038 | 0.000300457 | 0.001092407 | 3.68911E-07 | 2.72003E-10 |
| Zinc | Zn | 0.000853223 | 0.04054179 | 0.126346627 | 0.08495305 | 1.5477E-08 | — | — | — | 0.000839432 | 0.04055413 | 0.12737296 | 0.085015815 | 1.56458E-08 | — | — | — | 0.001802999 | 0.04055413 | 0.125817902 | 0.084595242 | 1.54124E-08 |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.039610255 | — | 0.000447383 | — | — | — | — | — | — | 0.000447383 | 0.003598809 | — | — | — | — | — | — | 0.003598809 |
| Antimony | Sb | — | — | — | 0.000139553 | 0.0003 | 1.29435E-07 | — | — | — | — | — | — | 1.29435E-07 | 0.000352802 | — | — | — | — | — | 0.000351005 | 1.79659E-06 |
| Arsenic | As | — | — | — | 0.000175027 | 0.002018131 | 5.41314E-07 | — | — | — | — | — | — | 5.41314E-07 | 0.001432463 | — | — | — | — | — | 0.001426355 | 6.10871E-06 |
| Cadmium | Cd | — | — | — | 4.05071E-06 | 0.00022417 | 3.14184E-08 | — | — | — | — | — | — | 3.14184E-08 | 5.74986E-06 | — | — | — | — | — | 5.29459E-06 | 4.55264E-07 |
| Cobalt | Co | — | — | — | 0.000110191 | 0.006812081 | 3.29803E-06 | — | — | — | — | — | — | 3.29803E-06 | 2.64619E-05 | — | — | — | — | — | — | 2.64619E-05 |
| Copper | Cu | — | — | — | 0.000219991 | 0.0147778 | 1.15726E-06 | — | — | — | — | — | — | 1.15726E-06 | 0.000209041 | — | — | — | — | — | 0.00019604 | 1.30003E-05 |
| Cyanide | CN- | — | — | — | 0.000207065 | — | — | — | — | — | — | — | — | — | 0.000184808 | — | — | — | — | — | 0.000184808 | — |
| Lead | Pb | — | — | — | 0.000162688 | 0.005595291 | 3.96849E-06 | — | — | — | — | — | — | 3.96849E-06 | 0.000234077 | — | — | — | — | — | 0.00017296 | 6.11162E-05 |
| Mercury | Hg | — | — | — | 2.82902E-06 | 2.35385E-05 | 7.61057E-09 | — | — | — | — | — | — | 7.61057E-09 | 6.02294E-08 | — | — | — | — | — | — | 6.02294E-08 |
| Methyl-Mercury | Me-Hg | — | — | — | 2.82902E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 1.64276E-05 | 7.04098E-05 | 3.50779E-08 | — | — | — | — | — | — | 3.50779E-08 | 7.69832E-07 | — | — | — | — | — | — | 7.69832E-07 |
| Thallium | Tl | — | — | — | 4.93431E-05 | 0.00015 | 9.01235E-09 | — | — | — | — | — | — | 9.01235E-09 | 3.4241E-07 | — | — | — | — | — | — | 3.4241E-07 |
| Uranium | U | — | — | — | 0.000792038 | 0.0003 | 2.72759E-08 | — | — | — | — | — | — | 2.72759E-08 | 4.29371E-07 | — | — | — | — | — | — | 4.29371E-07 |
| Zinc | Zn | — | — | — | 0.000839432 | 0.040383212 | 1.23102E-05 | — | — | — | — | — | — | 1.23102E-05 | 0.001011801 | — | — | — | — | — | 0.000853223 | 0.000158578 |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.004047173 | — | — | — | — | — | — | 0.004047173 | 0.043647283 | — | — | — | — | — | 0.039600109 | 0.004047173 | 0.040057638 | — | — | — | — |
| Antimony | Sb | 1.92632E-06 | — | — | — | — | — | — | 1.92632E-06 | 0.00014148 | — | — | — | — | — | 0.000139553 | 1.92632E-06 | 0.000439683 | — | — | — | — |
| Arsenic | As | 6.65132E-06 | — | — | — | — | — | — | 6.65132E-06 | 0.000181678 | — | — | — | — | — | 0.000175027 | 6.65132E-06 | 0.002193699 | — | — | — | — |
| Cadmium | Cd | 4.86763E-07 | — | — | — | — | — | — | 4.86763E-07 | 8.50417E-06 | — | — | — | — | — | 8.01741E-06 | 4.86763E-07 | 0.000228252 | — | — | — | — |
| Cobalt | Co | 2.97675E-05 | — | — | — | — | — | — | 2.97675E-05 | 0.000125746 | — | — | — | — | — | 9.59781E-05 | 2.97675E-05 | 0.006925569 | — | — | — | — |
| Copper | Cu | 1.41609E-05 | — | — | — | — | — | — | 1.41609E-05 | 0.000243979 | — | — | — | — | — | 0.000229818 | 1.41609E-05 | 0.014998948 | — | — | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000207058 | — | — | — | — | — | 0.000207058 | — | 0.000207065 | — | — | — | — |
| Lead | Pb | 6.50937E-05 | — | — | — | — | — | — | 6.50937E-05 | 0.00027221 | — | — | — | — | — | 0.000207117 | 6.50937E-05 | 0.005761947 | — | — | — | — |
| Mercury | Hg | 6.78579E-08 | — | — | — | — | — | — | 6.78579E-08 | 2.53555E-06 | — | — | — | — | — | 2.4677E-06 | 6.78579E-08 | 2.63751E-05 | — | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 2.4677E-06 | — | — | — | — | — | 2.4677E-06 | — | 2.82902E-06 | — | — | — | — |
| Silver | Ag | 8.0499E-07 | — | — | — | — | — | — | 8.0499E-07 | 1.72326E-05 | — | — | — | — | — | 1.64276E-05 | 8.0499E-07 | 8.68725E-05 | — | — | — | — |
| Thallium | Tl | 3.5145E-07 | — | — | — | — | — | — | 3.5145E-07 | 4.96945E-05 | — | — | — | — | — | 4.93431E-05 | 3.5145E-07 | 0.000199352 | — | — | — | — |
| Uranium | U | 4.56723E-07 | — | — | — | — | — | — | 4.56723E-07 | 0.000792495 | — | — | — | — | — | 0.000792038 | 4.56723E-07 | 0.001092065 | — | — | — | — |
| Zinc | Zn | 0.000170917 | — | — | — | — | — | — | 0.000170917 | 0.001973917 | — | — | — | — | — | 0.001802999 | 0.000170917 | 0.041234955 | — | — | — | — |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) | Total Dose to Red-tailed Hawk (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of Meat_3 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.039610255 | 0.000447383 | 0.0432154 | — | — | — | — | — | 0.03961659 | 0.003598809 | 0.043657428 | — | — | — | — | — | 0.039610255 | 0.004047173 | 0.043647283 | — |
| Antimony | Sb | — | 0.000139553 | 0.000300129 | 0.000652802 | — | — | — | — | — | 0.000351005 | 0.000301797 | 0.00044148 | — | — | — | — | — | 0.000139553 | 0.000301926 | 0.00044148 | — |
| Arsenic | As | — | 0.000175027 | 0.002018673 | 0.003450595 | — | — | — | — | — | 0.001426355 | 0.00202424 | 0.002199809 | — | — | — | — | — | 0.000175027 | 0.002024783 | 0.002199809 | — |
| Cadmium | Cd | — | 4.05071E-06 | 0.000224201 | 0.00022992 | — | — | — | — | — | 5.29459E-06 | 0.000224625 | 0.000228707 | — | — | — | — | — | 4.05071E-06 | 0.000224656 | 0.000232674 | — |
| Cobalt | Co | — | 0.000110191 | 0.006815379 | 0.006942041 | — | — | — | — | — | 0.000103499 | 0.006838543 | 0.006952039 | — | — | — | — | — | 0.000110191 | 0.006841848 | 0.006941199 | — |
| Copper | Cu | — | 0.000219991 | 0.014778957 | 0.015010791 | — | — | — | — | — | 0.000219991 | 0.0147908 | 0.015011952 | — | — | — | — | — | 0.000219991 | 0.014791961 | 0.015021779 | — |
| Cyanide | CN- | — | 0.000207065 | — | 0.000207065 | — | — | — | — | — | 0.000207065 | — | 0.000207065 | — | — | — | — | — | 0.000207065 | — | 0.000207058 | — |
| Lead | Pb | — | 0.000162688 | 0.005599259 | 0.005829367 | — | — | — | — | — | 0.00017296 | 0.005656407 | 0.005823072 | — | — | — | — | — | 0.000162688 | 0.005660384 | 0.005867501 | — |
| Mercury | Hg | — | 2.82902E-06 | 2.35461E-05 | 2.6428E-05 | — | — | — | — | — | 2.82929E-06 | 2.35987E-05 | 2.64354E-05 | — | — | — | — | — | 2.82902E-06 | 2.36064E-05 | 2.60741E-05 | — |
| Methyl-Mercury | Me-Hg | — | 2.82902E-06 | — | 2.82929E-06 | — | — | — | — | — | 2.82929E-06 | — | 2.82902E-06 | — | — | — | — | — | 2.82902E-06 | — | 2.4677E-06 | — |
| Silver | Ag | — | 1.64276E-05 | 7.04449E-05 | 8.76073E-05 | — | — | — | — | — | 1.64276E-05 | 7.11796E-05 | 8.76424E-05 | — | — | — | — | — | 1.64276E-05 | 7.12148E-05 | 8.76424E-05 | — |
| Thallium | Tl | — | 4.93431E-05 | 0.000150009 | 0.000199685 | — | — | — | — | — | 4.93431E-05 | 0.000150342 | 0.000199695 | — | — | — | — | — | 4.93431E-05 | 0.000150351 | 0.000199695 | — |
| Uranium | U | — | 0.000792038 | 0.000300027 | 0.001092467 | — | — | — | — | — | 0.000792038 | 0.000300429 | 0.001092495 | — | — | — | — | — | 0.000792038 | 0.000300457 | 0.001092495 | — |
| Zinc | Zn | — | 0.000839432 | 0.040395523 | 0.041395013 | — | — | — | — | — | 0.000853223 | 0.04054179 | 0.041393562 | — | — | — | — | — | 0.000839432 | 0.04055413 | 0.042357129 | — |

## Table VI-11A Estimated Ecological Exposure Dose: Red-Tailed Hawk

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Red-tailed Hawk from the consumption of Meat_4 (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of — (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Water (dry) (mg/kg/d) | Dose to Red-tailed Hawk from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | — | 0.039600109 | 0.004047173 |
| Antimony | Sb | — | — | — | — | 0.000139553 | 0.000301926 |
| Arsenic | As | — | — | — | — | 0.000175027 | 0.002024783 |
| Cadmium | Cd | — | — | — | — | 8.01741E-06 | 0.000224656 |
| Cobalt | Co | — | — | — | — | 9.93506E-05 | 0.006841848 |
| Copper | Cu | — | — | — | — | 0.000229818 | 0.014791961 |
| Cyanide | CN- | — | — | — | — | 0.000207058 | — |
| Lead | Pb | — | — | — | — | 0.000207117 | 0.005660384 |
| Mercury | Hg | — | — | — | — | 2.4677E-06 | 2.36064E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 2.4677E-06 | — |
| Silver | Ag | — | — | — | — | 1.64276E-05 | 7.12148E-05 |
| Thallium | Tl | — | — | — | — | 4.93431E-05 | 0.000150351 |
| Uranium | U | — | — | — | — | 0.000792038 | 0.000300457 |
| Zinc | Zn | — | — | — | — | 0.001802999 | 0.04055413 |

| Parameter | Symbol | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000361428 | 0.000361428 | 0.094235279 | 0.094235279 | 0.094339094 | 0.094339094 | 0.000103714 | 0.000103714 | 0.094235279 | 0.094235279 | 0.000800908 | 0.000800908 | 0.094596707 | 0.094596707 | 0.094339094 | 0.094339094 | 0.094596707 | 0.094596707 | 0.000800908 | 0.000800908 | 0.000361428 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.000898962 | 0.000298844 | 0.004790344 | 0.001592466 | 0.00520926 | 0.001731727 | 0.00041834 | 0.00013907 | 0.004790344 | 0.001592466 | 9.17944E-05 | 3.05154E-05 | 0.004861591 | 0.001616151 | 0.00520926 | 0.001731727 | 0.004861591 | 0.001616151 | 0.00091951 | 0.000305675 | 0.000898962 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000909948 | 0.000887783 | 0.009449354 | 0.009219177 | 0.009479409 | 0.009248501 | 3.00516E-05 | 2.93196E-05 | 0.009449354 | 0.009219177 | 8.39411E-05 | 8.18963E-05 | 0.009463836 | 0.009233306 | 0.009479409 | 0.009248501 | 0.009463836 | 0.009233306 | 0.000979408 | 0.000955551 | 0.000909948 |
| Copper | Cu | 0.000349779 | 0.000265155 | 0.000550858 | 0.000417586 | 0.000572822 | 0.000434236 | 2.18961E-05 | 1.65987E-05 | 0.000550858 | 0.000417586 | 1.25105E-05 | 9.48374E-06 | 0.000555553 | 0.000421145 | 0.000572822 | 0.000434236 | 0.000555553 | 0.000421145 | 0.000357594 | 0.00027108 | 0.000349779 |
| Cyanide | CN- | — | 0.000986991 | — | — | — | 0.272520209 | — | 0.272253286 | — | — | — | 0.001362601 | — | 0.000986991 | — | 0.272520209 | — | 0.000986991 | — | 0.001362601 | — |
| Lead | Pb | 0.003554266 | 0.001755592 | 0.053614089 | 0.026482111 | 0.056490707 | 0.027902985 | 0.002876197 | 0.001420667 | 0.053614089 | 0.026482111 | 0.000944511 | 0.000466531 | 0.053713912 | 0.026531417 | 0.056490707 | 0.027902985 | 0.053713912 | 0.026531417 | 0.004398954 | 0.002172817 | 0.003554266 |
| Mercury | Hg | 6.41967E-05 | 3.20984E-05 | 0.000405523 | 0.000202761 | 0.000634441 | 0.00031722 | 0.000228693 | 0.000114346 | 0.000405523 | 0.000202761 | 2.87305E-05 | 1.43652E-05 | 0.000411816 | 0.000205908 | 0.000634441 | 0.00031722 | 0.000411816 | 0.000205908 | 8.66343E-05 | 4.33171E-05 | 6.41967E-05 |
| Methyl-Mercury | Me-Hg | 0.000442038 | 4.42038E-05 | — | — | 0.016080104 | 0.00160801 | 0.01607996 | 0.001607996 | — | — | 0.001786678 | 0.000178668 | 0.000442038 | 4.42038E-05 | 0.016080104 | 0.00160801 | 0.000442038 | 4.42038E-05 | 0.001786678 | 0.000178668 | 0.000442038 |
| Silver | Ag | 4.39631E-05 | 4.39631E-06 | 0.000389126 | 3.89126E-05 | 0.000390542 | 3.90542E-05 | 1.41518E-06 | 1.41518E-07 | 0.000389126 | 3.89126E-05 | 1.05508E-05 | 1.05508E-06 | 0.000397266 | 3.97266E-05 | 0.000390542 | 3.90542E-05 | 0.000397266 | 3.97266E-05 | 4.63735E-05 | 4.63735E-06 | 4.39631E-05 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.008677097 | 0.000960442 | 0.056821862 | 0.006289443 | 0.056989855 | 0.006308037 | 0.000157719 | 1.74575E-05 | 0.056821862 | 0.006289443 | 0.000828575 | 9.17125E-05 | 0.056883525 | 0.006296268 | 0.056989855 | 0.006308037 | 0.056883525 | 0.006296268 | 0.009444008 | 0.001045329 | 0.008677097 |

| Parameter | Symbol | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000361428 | 4.27012E-06 | 4.27012E-06 | 3.43494E-05 | 3.43494E-05 | 3.86289E-05 | 3.86289E-05 | 0.000399964 | 0.000399964 | 0.000365698 | 0.000365698 | 0.000395835 | 0.000395835 | 0.000400057 | 0.000400057 | 0.000399964 | 0.000399964 | 0.000361428 | 0.000361428 | 4.07824E-06 | 4.07824E-06 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.000298844 | 2.22014E-07 | 7.38047E-08 | 0.000583122 | 0.000193849 | 2.72797E-06 | 9.06865E-07 | 7.39749E-05 | 2.45917E-05 | 0.000899184 | 0.000298918 | 0.001410838 | 0.000469008 | 0.00090169 | 0.000299751 | 0.00090169 | 0.000299751 | 0.000898962 | 0.000298844 | 2.20046E-07 | 7.31505E-08 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000887783 | 4.33535E-07 | 4.22974E-07 | 3.47849E-06 | 3.39376E-06 | 3.91302E-06 | 3.81771E-06 | 1.65267E-05 | 1.61241E-05 | 0.000910382 | 0.000888206 | 0.000912547 | 0.000890319 | 0.000913862 | 0.000891601 | 0.000912437 | 0.000890211 | 0.000909948 | 0.000887783 | 4.33381E-07 | 4.22824E-07 |
| Copper | Cu | 0.000265155 | 2.70238E-08 | 2.04858E-08 | 4.48765E-06 | 3.40193E-06 | 3.30679E-07 | 2.50676E-07 | 5.23567E-06 | 3.96898E-06 | 0.000349806 | 0.000265176 | 0.000350083 | 0.000265385 | 0.00035011 | 0.000265406 | 0.00035032 | 0.000265565 | 0.000349779 | 0.000265155 | 2.46226E-08 | 1.86655E-08 |
| Cyanide | CN- | 0.000986991 | — | — | — | 0.000880901 | — | — | — | 0.000986958 | — | 0.000986991 | — | 0.000986991 | — | 0.000986991 | — | 0.000986958 | — | 0.000986991 | — | — |
| Lead | Pb | 0.001755592 | 2.45008E-06 | 1.21019E-06 | 0.000143858 | 7.10573E-05 | 4.01878E-05 | 1.98503E-05 | 0.000167272 | 8.26222E-05 | 0.003556716 | 0.001756802 | 0.003598301 | 0.001777343 | 0.003594453 | 0.001775442 | 0.003621715 | 0.001788908 | 0.003554266 | 0.001755592 | 2.43466E-06 | 1.20257E-06 |
| Mercury | Hg | 3.20984E-05 | 1.87217E-08 | 9.36085E-09 | 1.48162E-07 | 7.4081E-08 | 1.66928E-07 | 8.34639E-08 | 5.65611E-06 | 2.82805E-06 | 6.42154E-05 | 3.21077E-05 | 6.43455E-05 | 3.21727E-05 | 6.43636E-05 | 3.21818E-05 | 6.35599E-05 | 3.178E-05 | 6.41967E-05 | 3.20984E-05 | 1.69124E-08 | 8.45619E-09 |
| Methyl-Mercury | Me-Hg | 4.42038E-05 | — | — | — | — | — | — | 0.000385581 | 3.85581E-05 | 0.000442038 | 4.42038E-05 | 0.000442081 | 4.42081E-05 | 0.000442038 | 4.42038E-05 | 0.000385581 | 3.85581E-05 | 0.000442038 | 4.42038E-05 | — | — |
| Silver | Ag | 4.39631E-06 | 1.78467E-08 | 1.78467E-09 | 3.91671E-07 | 3.91671E-08 | 4.09559E-07 | 4.09559E-08 | 8.54996E-06 | 8.54996E-07 | 4.3981E-05 | 4.3981E-06 | 4.43548E-05 | 4.43548E-06 | 4.43727E-05 | 4.43727E-06 | 4.43727E-05 | 4.43727E-06 | 4.39631E-05 | 4.39631E-06 | 1.73653E-08 | 1.73653E-09 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000960442 | 2.62629E-06 | 2.90696E-07 | 9.65072E-05 | 1.06821E-05 | 3.64638E-05 | 4.03607E-06 | 0.000168908 | 1.8696E-05 | 0.008679723 | 0.000960733 | 0.008711941 | 0.000964299 | 0.00871356 | 0.000964478 | 0.008784342 | 0.000972313 | 0.008677097 | 0.000960442 | 8.48981E-07 | 9.39712E-08 |

| Parameter | Symbol | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) | Risk to Red-tailed Hawk (NOAELb) | Risk to Red-tailed Hawk (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 3.28059E-05 | 3.28059E-05 | 3.68931E-05 | 3.68931E-05 | 0.000397879 | 0.000397879 | 0.000365156 | 0.000365156 | 0.000393942 | 0.000393942 | 0.000397971 | 0.000397971 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.000582302 | 0.000193576 | 2.70379E-06 | 8.98827E-07 | 7.38528E-05 | 2.45511E-05 | 0.000891748 | 0.000296446 | 0.001402681 | 0.000466297 | 0.000894231 | 0.000297272 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 3.47725E-06 | 3.39255E-06 | 3.91163E-06 | 3.81635E-06 | 1.65237E-05 | 1.61212E-05 | 0.000910062 | 0.000887894 | 0.000912226 | 0.000890005 | 0.00091354 | 0.000891287 |
| Copper | Cu | 4.44767E-06 | 3.37162E-06 | 3.01297E-07 | 2.28402E-07 | 5.19105E-06 | 3.93515E-06 | 0.000319127 | 0.000241919 | 0.000319379 | 0.00024211 | 0.000319403 | 0.000242128 |
| Cyanide | CN- | — | 0.000880039 | — | — | — | 0.000985991 | — | 0.000986024 | — | 0.000986024 | — | 0.000986024 |
| Lead | Pb | 0.000143605 | 7.09323E-05 | 3.99348E-05 | 1.97254E-05 | 0.000167 | 8.2488E-05 | 0.003534937 | 0.001746044 | 0.003576299 | 0.001766475 | 0.003572437 | 0.001764567 |
| Mercury | Hg | 1.33843E-07 | 6.69215E-08 | 1.50795E-07 | 7.53977E-08 | 5.63457E-06 | 2.81728E-06 | 5.86114E-05 | 2.93057E-05 | 5.87289E-05 | 2.93645E-05 | 5.87453E-05 | 2.93726E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000385578 | 3.85578E-05 | 0.000442034 | 4.42034E-05 | 0.000442077 | 4.42077E-05 | 0.000442034 | 4.42034E-05 |
| Silver | Ag | 3.81105E-07 | 3.81105E-08 | 3.9851E-07 | 3.9851E-08 | 8.53101E-06 | 8.53101E-07 | 4.30062E-05 | 4.30062E-06 | 4.33699E-05 | 4.33699E-06 | 4.33873E-05 | 4.33873E-06 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 6.97793E-05 | 7.72367E-06 | 1.17874E-05 | 1.30471E-06 | 0.000136132 | 1.50681E-05 | 0.00284379 | 0.000314771 | 0.002854828 | 0.000315992 | 0.002854728 | 0.000315981 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| | Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| | Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — |
| | | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |
| **Parameter** | **Symbol** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** |
| Aluminum (Al) | Aluminum | Al | 0.222341426 | 5.16036E-05 | 2.30951E-08 | 0.200254295 | — | — | 0.022035505 | — | 10.56982131 | 0.696727696 | 8.94835E-06 | 0 | — | — | 0 | 9.873084665 | 10.57688333 | 0.696744196 | 8.95573E-06 | 0 |
| Antimony (Sb) | Antimony | Sb | 0.000466782 | 5.8395E-06 | 2.56045E-10 | 8.95079E-05 | — | — | 7.1434E-05 | 0.0003 | 0.002870791 | 5.39183E-05 | 1.9355E-09 | 0 | — | — | 0 | 0.002816871 | 0.002941712 | 5.40146E-05 | 1.98497E-09 | 1.51715E-08 |
| Arsenic (As) | Arsenic | As | 0.002284209 | 2.73354E-05 | 1.34015E-09 | 0.000157196 | — | — | 8.15452E-05 | 0.002018131 | 0.011836433 | 0.000156633 | 7.0965E-09 | 0 | — | — | 0 | 0.011679792 | 0.012475835 | 0.000158752 | 7.98707E-09 | 0 |
| Cadmium (Cd) | Cadmium | Cd | 0.000299068 | 1.57776E-05 | 2.06338E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.00022417 | 0.000710505 | 4.67146E-05 | 6.10263E-10 | 0 | — | — | 0 | 0.00066379 | 0.000781352 | 4.67525E-05 | 6.162E-10 | 0 |
| Cobalt (Co) | Cobalt | Co | 0.00768055 | 3.43034E-06 | 3.29497E-08 | 0.00080417 | — | — | 6.08361E-05 | 0.006812081 | 0.071920422 | 3.60691E-05 | 3.38728E-07 | 0 | — | — | 0 | 0.071884014 | 0.072062071 | 3.60976E-05 | 3.40707E-07 | 0 |
| Copper (Cu) | Copper | Cu | 0.018636199 | 0.002161704 | 1.05913E-07 | 0.001602721 | — | — | 9.38688E-05 | 0.0147778 | 0.027039602 | 0.003449607 | 1.68021E-07 | 0 | — | — | 0 | 0.023589827 | 0.027681672 | 0.003454389 | 1.72474E-07 | 0 |
| Cyanide (CN-) | Cyanide | CN- | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — | — | 0.000128225 | — | 0 | 0 | 0 | 0 | — | — | 0 | — | 0.035487687 | 8.29119E-05 | 1.73166E-07 | 0 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| | Phase | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| | Media | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Media_Water (supernatant) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Media_Water (pit lake dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** |
| Aluminum (Al) | Aluminum | — | — | 0.007045516 | 9.873084665 | 10.56982131 | 0.696727696 | 8.94835E-06 | 0 | — | — | 0 | 9.873084665 | 0.095150477 | 0.005654904 | 8.24857E-08 | 0 | — | — | 0.009683159 | 0.079812331 | 10.56982131 |
| Antimony (Sb) | Antimony | — | — | 7.08092E-05 | 0.002816871 | 0.002870791 | 5.39183E-05 | 1.9355E-09 | 0 | — | — | 0 | 0.002816871 | 7.78843E-05 | 7.62891E-07 | 5.34522E-11 | 6.25925E-09 | — | — | 4.01084E-05 | 3.70067E-05 | 0.002870791 |
| Arsenic (As) | Arsenic | — | — | 0.000637283 | 0.011679792 | 0.011836433 | 0.000156633 | 7.0965E-09 | 0 | — | — | 0 | 0.011679792 | 0.000181165 | 1.89593E-06 | 1.48714E-10 | 8.50818E-10 | — | — | 5.03799E-05 | 0.000128889 | 0.011836433 |
| Cadmium (Cd) | Cadmium | — | — | 7.08092E-05 | 0.00066379 | 0.000710505 | 4.67146E-05 | 6.10263E-10 | 0 | — | — | 0 | 0.00066379 | 1.33138E-05 | 6.58812E-07 | 8.86156E-12 | 0 | — | — | 3.31888E-06 | 9.33613E-06 | 0.000710505 |
| Cobalt (Co) | Cobalt | — | — | 0.000141618 | 0.071884014 | 0.071920422 | 3.60691E-05 | 3.38728E-07 | 0 | — | — | 0 | 0.071884014 | 0.000619289 | 3.01017E-07 | 3.21188E-09 | 0 | — | — | 3.18641E-05 | 0.00058712 | 0.071920422 |
| Copper (Cu) | Copper | — | — | 0.000637283 | 0.023589827 | 0.027039602 | 0.003449607 | 1.68021E-07 | 0 | — | — | 0 | 0.023589827 | 0.00063842 | 4.11687E-05 | 2.91621E-09 | 0.000185205 | — | — | 0.000137575 | 0.000274469 | 0.027039602 |
| Cyanide (CN-) | Cyanide | — | — | 0.035404602 | — | 0 | 0 | 0 | 0 | — | — | 0 | — | 7.3559E-05 | 1.7186E-07 | 3.58939E-10 | 0 | — | — | 7.33868E-05 | — | 0 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| | **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| | **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| | **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Media_Water (supernatant) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 0.696727696 | 8.94835E-06 | 0 | — | — | 0 | 9.873084665 | 10.77713763 | 0.696744196 | 8.95573E-06 | 0.200254295 | — | — | 0.007045516 | 9.873084665 | 10.79216274 | 0.6967793 | 8.97144E-06 | 0.200254295 | — | — |
| Antimony (Sb) | Antimony | 5.39183E-05 | 1.9355E-09 | 0 | — | — | 0 | 0.002816871 | 0.00303122 | 5.40146E-05 | 1.98497E-09 | 8.95231E-05 | — | — | 7.08092E-05 | 0.002816871 | 0.00303183 | 5.40154E-05 | 1.98541E-09 | 8.95079E-05 | — | — |
| Arsenic (As) | Arsenic | 0.000156633 | 7.0965E-09 | 0 | — | — | 0 | 0.011679792 | 0.012633031 | 0.000158752 | 7.98707E-09 | 0.000157196 | — | — | 0.000637283 | 0.011679792 | 0.012075445 | 0.000156904 | 7.21046E-09 | 0.000157196 | — | — |
| Cadmium (Cd) | Cadmium | 4.67146E-05 | 6.10263E-10 | 0 | — | — | 0 | 0.00066379 | 0.000837557 | 4.67525E-05 | 6.162E-10 | 5.62052E-05 | — | — | 7.08092E-05 | 0.00066379 | 0.000769627 | 4.67162E-05 | 6.10508E-10 | 5.62052E-05 | — | — |
| Cobalt (Co) | Cobalt | 3.60691E-05 | 3.38728E-07 | 0 | — | — | 0 | 0.071884014 | 0.072783876 | 3.60976E-05 | 3.40707E-07 | 0.000721806 | — | — | 0.000141618 | 0.071884014 | 0.07278544 | 3.60814E-05 | 3.39578E-07 | 0.00080417 | — | — |
| Copper (Cu) | Copper | 0.003449607 | 1.68021E-07 | 0 | — | — | 0 | 0.023589827 | 0.029284393 | 0.003454389 | 1.72474E-07 | 0.001602721 | — | — | 0.000637283 | 0.023589827 | 0.028736897 | 0.003450312 | 1.68677E-07 | 0.001602721 | — | — |
| Cyanide (CN-) | Cyanide | 0 | 0 | 0 | — | — | 0 | — | 0.038709884 | 8.29119E-05 | 1.73166E-07 | 0.003222196 | — | — | 0.035404602 | — | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — | — |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| | Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| | Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of media_Waste Rock (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Media_Water (pit lake dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 0.022035505 | 9.873084665 | 0.295404772 | 0.005654904 | 8.24857E-08 | 0.200254295 | — | — | 0.009683159 | 0.079812331 | 0.222341426 | 5.16036E-05 | 2.30951E-08 | 0.200254295 | — | — | 0.022035505 | — | 0.000478955 | 3.15711E-05 | 4.0548E-10 |
| Antimony (Sb) | Antimony | 7.1434E-05 | 0.002816871 | 0.000473135 | 6.50525E-06 | 2.59585E-10 | 8.95142E-05 | — | — | 4.01084E-05 | 0.000337007 | 0.000466782 | 5.8395E-06 | 2.56045E-10 | 8.95079E-05 | — | — | 7.1434E-05 | 0.0003 | 1.31913E-07 | 2.47755E-09 | 8.8936E-14 |
| Arsenic (As) | Arsenic | 8.15452E-05 | 0.011679792 | 0.002383558 | 2.89603E-05 | 1.37491E-09 | 0.000157197 | — | — | 5.03799E-05 | 0.00214702 | 0.002284209 | 2.73354E-05 | 1.34015E-09 | 0.000157196 | — | — | 8.15452E-05 | 0.002018131 | 5.48573E-07 | 7.25935E-09 | 3.28896E-13 |
| Cadmium (Cd) | Cadmium | 2.91564E-06 | 0.00066379 | 0.000309465 | 1.64349E-05 | 2.14955E-10 | 5.62052E-05 | — | — | 3.31888E-06 | 0.000233506 | 0.000299068 | 1.57776E-05 | 2.06338E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.00022417 | 3.36295E-08 | 2.21109E-09 | 2.88849E-14 |
| Cobalt (Co) | Cobalt | 6.08361E-05 | 0.071884014 | 0.008175966 | 3.7191E-06 | 3.53114E-08 | 0.000741146 | — | — | 3.18641E-05 | 0.007399201 | 0.00768055 | 3.43034E-06 | 3.29497E-08 | 0.00080417 | — | — | 6.08361E-05 | 0.006812081 | 3.2997E-06 | 1.65484E-09 | 1.55408E-11 |
| Copper (Cu) | Copper | 9.38688E-05 | 0.023589827 | 0.019180045 | 0.002202168 | 1.08173E-07 | 0.001787925 | — | — | 0.000137575 | 0.015052268 | 0.018636199 | 0.002161704 | 1.05913E-07 | 0.001602721 | — | — | 9.38688E-05 | 0.0147778 | 1.3265E-06 | 1.6923E-07 | 8.24274E-12 |
| Cyanide (CN-) | Cyanide | 0.000128225 | — | 0.003295707 | 1.7186E-07 | 3.58939E-10 | 0.003222148 | — | — | 7.33868E-05 | — | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — | — | 0.000128225 | — | 0 | 0 | 0 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| | **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| | **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| | **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 0 | — | — | 0 | 0.000447383 | 0.003852775 | 0.000253962 | 3.26174E-09 | 0 | — | — | 0 | 0.003598809 | 0.004332779 | 0.000285603 | 3.66811E-09 | 0 | — | — | 0 | 0.004047173 |
| Antimony (Sb) | Antimony | 0 | — | — | 0 | 1.29435E-07 | 1.85827E-06 | 3.44053E-08 | 1.24291E-12 | 1.51715E-08 | — | — | 1.2108E-08 | 1.79659E-06 | 1.9632E-06 | 3.68721E-08 | 1.32359E-12 | 0 | — | — | 0 | 1.92632E-06 |
| Arsenic (As) | Arsenic | 0 | — | — | 0 | 5.41314E-07 | 6.19063E-06 | 8.19216E-08 | 3.71158E-12 | 0 | — | — | 0 | 6.10871E-06 | 6.74052E-06 | 8.91983E-08 | 4.04126E-12 | 0 | — | — | 0 | 6.65132E-06 |
| Cadmium (Cd) | Cadmium | 0 | — | — | 0 | 3.14184E-08 | 4.87304E-07 | 3.20395E-08 | 4.18552E-13 | 0 | — | — | 0 | 4.55264E-07 | 5.2102E-07 | 3.42563E-08 | 4.47512E-13 | 0 | — | — | 0 | 4.86763E-07 |
| Cobalt (Co) | Cobalt | 0 | — | — | 0 | 3.29803E-06 | 2.64753E-05 | 1.32777E-08 | 1.24692E-10 | 0 | — | — | 0 | 2.64619E-05 | 2.97826E-05 | 1.49364E-08 | 1.40269E-10 | 0 | — | — | 0 | 2.97675E-05 |
| Copper (Cu) | Copper | 0 | — | — | 0 | 1.15726E-06 | 1.49015E-05 | 1.90108E-06 | 9.25966E-11 | 0 | — | — | 0 | 1.30003E-05 | 1.62318E-05 | 2.07079E-06 | 1.00863E-10 | 0 | — | — | 0 | 1.41609E-05 |
| Cyanide (CN-) | Cyanide | 0 | — | — | 0 | — | 0 | 0 | 0 | 0 | — | — | 0 | — | 0 | 0 | 0 | 0 | — | — | 0 | — |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| | Phase | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations |
| | Media | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 0.004332779 | 0.000285603 | 3.66811E-09 | 0 | — | — | 0 | 0.004047173 | 0.222820381 | 8.31747E-05 | 2.35005E-08 | 0.200254295 | — | — | 0.022035505 | 0.000447383 | 0.226194201 | 0.000305566 | 2.63568E-08 | 0.200254295 | — |
| Antimony (Sb) | Antimony | 1.97446E-06 | 3.68789E-08 | 1.32708E-12 | 6.25925E-09 | — | — | 4.99535E-09 | 1.92632E-06 | 0.000466914 | 5.84197E-06 | 2.56134E-10 | 8.95079E-05 | — | — | 7.1434E-05 | 0.000300129 | 0.00046864 | 5.8739E-06 | 2.57288E-10 | 8.95231E-05 | — |
| Arsenic (As) | Arsenic | 6.74181E-06 | 8.91998E-08 | 4.04188E-12 | 8.50818E-10 | — | — | 4.41361E-10 | 6.65132E-06 | 0.002284758 | 2.73427E-05 | 1.34048E-09 | 0.000157196 | — | — | 8.15452E-05 | 0.002018673 | 0.0022904 | 2.74174E-05 | 1.34386E-09 | 0.000157196 | — |
| Cadmium (Cd) | Cadmium | 5.2102E-07 | 3.42563E-08 | 4.47512E-13 | 0 | — | — | 0 | 4.86763E-07 | 0.000299102 | 1.57799E-05 | 2.06367E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.000224201 | 0.000299556 | 1.58097E-05 | 2.06756E-10 | 5.62052E-05 | — |
| Cobalt (Co) | Cobalt | 2.97826E-05 | 1.49364E-08 | 1.40269E-10 | 0 | — | — | 0 | 2.97675E-05 | 0.007683849 | 3.43199E-06 | 3.29652E-08 | 0.00080417 | — | — | 6.08361E-05 | 0.006815379 | 0.007618429 | 3.44236E-06 | 3.29873E-08 | 0.000721806 | — |
| Copper (Cu) | Copper | 0.000212365 | 2.15219E-06 | 1.76654E-10 | 0.000185205 | — | — | 1.08471E-05 | 1.41609E-05 | 0.018637526 | 0.002161873 | 1.05921E-07 | 0.001602721 | — | — | 9.38688E-05 | 0.014778957 | 0.018651101 | 0.002163605 | 1.06005E-07 | 0.001602721 | — |
| Cyanide (CN-) | Cyanide | 0 | 0 | 0 | 0 | — | — | 0 | — | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — | — | 0.000128225 | — | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| | Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| | Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** |
| Aluminum (Al) | Aluminum | — | 0.022035505 | 0.003598809 | 0.226674206 | 0.000337206 | 2.67632E-08 | 0.200254295 | — | — | 0.022035505 | 0.004047173 | 0.226674206 | 0.000337206 | 2.67632E-08 | 0.200254295 | — | — | 0.022035505 | 0.004047173 | 0.222341426 | 5.16036E-05 |
| Antimony (Sb) | Antimony | — | 7.14461E-05 | 0.000301797 | 0.000468745 | 5.87637E-06 | 2.57369E-10 | 8.95079E-05 | — | — | 7.1434E-05 | 0.000301926 | 0.000468756 | 5.87638E-06 | 2.57372E-10 | 8.95142E-05 | — | — | 7.1439E-05 | 0.000301926 | 0.000466782 | 5.8395E-06 |
| Arsenic (As) | Arsenic | — | 8.15452E-05 | 0.00202424 | 0.00229095 | 2.74246E-05 | 1.34419E-09 | 0.000157196 | — | — | 8.15452E-05 | 0.002024783 | 0.002290951 | 2.74246E-05 | 1.34419E-09 | 0.000157197 | — | — | 8.15456E-05 | 0.002024783 | 0.002284209 | 2.73354E-05 |
| Cadmium (Cd) | Cadmium | — | 2.91564E-06 | 0.000224625 | 0.000299589 | 1.58119E-05 | 2.06785E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.000224656 | 0.000299589 | 1.58119E-05 | 2.06785E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.000224656 | 0.000299068 | 1.57776E-05 |
| Cobalt (Co) | Cobalt | — | 5.46052E-05 | 0.006838543 | 0.007710332 | 3.44528E-06 | 3.309E-08 | 0.00080417 | — | — | 6.08361E-05 | 0.006841848 | 0.00764254 | 3.44432E-06 | 3.30233E-08 | 0.000741146 | — | — | 5.60683E-05 | 0.006841848 | 0.00768055 | 3.43034E-06 |
| Copper (Cu) | Copper | — | 9.38688E-05 | 0.0147908 | 0.018652431 | 0.002163775 | 1.06013E-07 | 0.001602721 | — | — | 9.38688E-05 | 0.014791961 | 0.018848564 | 0.002163856 | 1.06089E-07 | 0.001787925 | — | — | 0.000104716 | 0.014791961 | 0.018636199 | 0.002161704 |
| Cyanide (CN-) | Cyanide | — | 0.000128225 | — | 0.003350723 | 3.00283E-07 | 6.27158E-10 | 0.003222196 | — | — | 0.000128225 | — | 0.003350672 | 3.00279E-07 | 6.27149E-10 | 0.003222148 | — | — | 0.000128224 | — | 0.003350723 | 3.00283E-07 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| | Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| | Media | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 2.30951E-08 | 0.200254295 | — | — | 0.022035505 | — | 0.000447383 | — | — | 0 | — | — | 0 | 0.000447383 | 0.003598809 | — | — | 0 | — | — | 0 |
| Antimony (Sb) | Antimony | 2.56045E-10 | 8.95079E-05 | — | — | 7.1434E-05 | 0.0003 | 1.29435E-07 | — | — | 0 | — | — | 0 | 1.29435E-07 | 1.82387E-06 | — | — | 1.51715E-08 | — | — | 1.2108E-08 |
| Arsenic (As) | Arsenic | 1.34015E-09 | 0.000157196 | — | — | 8.15452E-05 | 0.002018131 | 5.41314E-07 | — | — | 0 | — | — | 0 | 5.41314E-07 | 6.10871E-06 | — | — | 0 | — | — | 0 |
| Cadmium (Cd) | Cadmium | 2.06338E-10 | 5.62052E-05 | — | — | 2.91564E-06 | 0.00022417 | 3.14184E-08 | — | — | 0 | — | — | 0 | 3.14184E-08 | 4.55264E-07 | — | — | 0 | — | — | 0 |
| Cobalt (Co) | Cobalt | 3.29497E-08 | 0.00080417 | — | — | 6.08361E-05 | 0.006812081 | 3.29803E-06 | — | — | 0 | — | — | 0 | 3.29803E-06 | 2.64619E-05 | — | — | 0 | — | — | 0 |
| Copper (Cu) | Copper | 1.05913E-07 | 0.001602721 | — | — | 9.38688E-05 | 0.0147778 | 1.15726E-06 | — | — | 0 | — | — | 0 | 1.15726E-06 | 1.30003E-05 | — | — | 0 | — | — | 0 |
| Cyanide (CN-) | Cyanide | 6.27158E-10 | 0.003222196 | — | — | 0.000128225 | — | 0 | — | — | 0 | — | — | 0 | — | 0 | — | — | 0 | — | — | 0 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| | Phase | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| | Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |
| **Parameter** | **Symbol** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** |
| Aluminum (Al) | Aluminum | 0.003598809 | 0.004047173 | — | — | 0 | — | — | 0 | 0.004047173 | 0.004047173 | — | — | 0 | — | — | 0 | 0.004047173 | 0.222737183 | — | — | 0.200254295 |
| Antimony (Sb) | Antimony | 1.79659E-06 | 1.92632E-06 | — | — | 0 | — | — | 0 | 1.92632E-06 | 1.93758E-06 | — | — | 6.25925E-09 | — | — | 4.99535E-09 | 1.92632E-06 | 0.000461071 | — | — | 8.95079E-05 |
| Arsenic (As) | Arsenic | 6.10871E-06 | 6.65132E-06 | — | — | 0 | — | — | 0 | 6.65132E-06 | 6.65261E-06 | — | — | 8.50818E-10 | — | — | 4.41361E-10 | 6.65132E-06 | 0.002257414 | — | — | 0.000157196 |
| Cadmium (Cd) | Cadmium | 4.55264E-07 | 4.86763E-07 | — | — | 0 | — | — | 0 | 4.86763E-07 | 4.86763E-07 | — | — | 0 | — | — | 0 | 4.86763E-07 | 0.000283322 | — | — | 5.62052E-05 |
| Cobalt (Co) | Cobalt | 2.64619E-05 | 2.97675E-05 | — | — | 0 | — | — | 0 | 2.97675E-05 | 2.97675E-05 | — | — | 0 | — | — | 0 | 2.97675E-05 | 0.007680384 | — | — | 0.00080417 |
| Copper (Cu) | Copper | 1.30003E-05 | 1.41609E-05 | — | — | 0 | — | — | 0 | 1.41609E-05 | 0.000210213 | — | — | 0.000185205 | — | — | 1.08471E-05 | 1.41609E-05 | 0.016475547 | — | — | 0.001602721 |
| Cyanide (CN-) | Cyanide | — | 0 | — | — | 0 | — | — | 0 | — | 0 | — | — | 0 | — | — | 0 | — | 0.003350422 | — | — | 0.003222196 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | Study Area | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| | Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| | Media | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** | **Total Dose to Bald Eagle (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Meat_3 (mg/kg/d)** |
| Aluminum (Al) | Aluminum | — | — | 0.022035505 | 0.000447383 | 0.225888609 | — | — | 0.200254295 | — | — | 0.022035505 | 0.003598809 | 0.226336973 | — | — | 0.200254295 | — | — | 0.022035505 | 0.004047173 | 0.226336973 |
| Antimony (Sb) | Antimony | — | — | 7.1434E-05 | 0.000300129 | 0.000462766 | — | — | 8.95231E-05 | — | — | 7.14461E-05 | 0.000301797 | 0.000462868 | — | — | 8.95079E-05 | — | — | 7.1434E-05 | 0.000301926 | 0.00046288 |
| Arsenic (As) | Arsenic | — | — | 8.15452E-05 | 0.002018673 | 0.002262981 | — | — | 0.000157196 | — | — | 8.15452E-05 | 0.00202424 | 0.002263524 | — | — | 0.000157196 | — | — | 8.15452E-05 | 0.002024783 | 0.002263525 |
| Cadmium (Cd) | Cadmium | — | — | 2.91564E-06 | 0.000224201 | 0.000283746 | — | — | 5.62052E-05 | — | — | 2.91564E-06 | 0.000224625 | 0.000283777 | — | — | 5.62052E-05 | — | — | 2.91564E-06 | 0.000224656 | 0.000283777 |
| Cobalt (Co) | Cobalt | — | — | 6.08361E-05 | 0.006815379 | 0.007614953 | — | — | 0.000721806 | — | — | 5.46052E-05 | 0.006838543 | 0.007706854 | — | — | 0.00080417 | — | — | 6.08361E-05 | 0.006841848 | 0.007639063 |
| Copper (Cu) | Copper | — | — | 9.38688E-05 | 0.014778957 | 0.01648739 | — | — | 0.001602721 | — | — | 9.38688E-05 | 0.0147908 | 0.01648855 | — | — | 0.001602721 | — | — | 9.38688E-05 | 0.014791961 | 0.016684602 |
| Cyanide (CN-) | Cyanide | — | — | 0.000128225 | — | 0.003350422 | — | — | 0.003222196 | — | — | 0.000128225 | — | 0.003350422 | — | — | 0.003222196 | — | — | 0.000128225 | — | 0.003350372 |

## Table VI-12A Estimated Ecological Exposure Dose: Bald Eagle

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| | **Scenario** | Project | Project | Project | Project | Project | Project |
| | **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| | **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | | berries | — | — | — | 0 | 0 |
| **Parameter** | **Symbol** | **Dose to Bald Eagle from the consumption of Meat_4 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of Fish_2 (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of — (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Water (dry) (mg/kg/d)** | **Dose to Bald Eagle from the consumption of media_Soil (mg/kg/d)** |
| Aluminum (Al) | Aluminum | — | — | 0.200254295 | — | — | 0.022035505 |
| Antimony (Sb) | Antimony | — | — | 8.95142E-05 | — | — | 7.1439E-05 |
| Arsenic (As) | Arsenic | — | — | 0.000157197 | — | — | 8.15456E-05 |
| Cadmium (Cd) | Cadmium | — | — | 5.62052E-05 | — | — | 2.91564E-06 |
| Cobalt (Co) | Cobalt | — | — | 0.000741146 | — | — | 5.60683E-05 |
| Copper (Cu) | Copper | — | — | 0.001787925 | — | — | 0.000104716 |
| Cyanide (CN-) | Cyanide | — | — | 0.003222148 | — | — | 0.000128224 |

## Table VI-12B Estimated Ecological Risk: Bald Eagle

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.00092854 | 0.000308677 | 0.004811558 | 0.001599518 | 0.005071478 | 0.001685924 | 0.000259058 | 8.61193E-05 | 0.004811558 | 0.001599518 | 7.36444E-05 | 2.44818E-05 | 0.004811558 | 0.001599518 | 0.005135378 | 0.001707166 | 0.004908717 | 0.001631817 | 0.000968926 | 0.000322102 | 0.00092854 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.001009271 | 0.000984686 | 0.009450778 | 0.009220567 | 0.009469392 | 0.009238727 | 1.86095E-05 | 1.81562E-05 | 0.009450778 | 0.009220567 | 8.13783E-05 | 7.9396E-05 | 0.009450778 | 0.009220567 | 0.009564241 | 0.009331266 | 0.009564447 | 0.009331467 | 0.001074371 | 0.001048201 | 0.001009271 |
| Copper | Cu | 0.000396515 | 0.000300584 | 0.000575311 | 0.000436123 | 0.000588972 | 0.000446479 | 1.35592E-05 | 1.02788E-05 | 0.000575311 | 0.000436123 | 1.35834E-05 | 1.02971E-05 | 0.000575311 | 0.000436123 | 0.000623072 | 0.000472329 | 0.000611423 | 0.000463498 | 0.000408086 | 0.000309356 | 0.000396515 |
| Lead | Pb | 0.003621118 | 0.001788613 | 0.053782714 | 0.026565401 | 0.055564433 | 0.027445462 | 0.00178109 | 0.000879751 | 0.053782714 | 0.026565401 | 0.000841216 | 0.00041551 | 0.053782714 | 0.026565401 | 0.05567544 | 0.027500293 | 0.053938525 | 0.026642362 | 0.00441753 | 0.002181992 | 0.003621118 |

## Table VI-12B Estimated Ecological Risk: Bald Eagle

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| **Phase** | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) | Risk to Bald Eagle (NOAELb) | Risk to Bald Eagle (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.000308677 | 2.22997E-07 | 7.41315E-08 | 2.51652E-06 | 8.36572E-07 | 2.74005E-06 | 9.10881E-07 | 2.74057E-06 | 9.11056E-07 | 0.000928763 | 0.000308751 | 0.000931057 | 0.000309513 | 0.00093128 | 0.000309588 | 0.000931281 | 0.000309588 | 0.00092854 | 0.000308677 | 2.20046E-07 | 7.31505E-08 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.000984686 | 4.336E-07 | 4.23038E-07 | 3.47901E-06 | 3.39427E-06 | 3.91361E-06 | 3.81828E-06 | 3.91361E-06 | 3.81828E-06 | 0.001009704 | 0.000985109 | 0.001001108 | 0.000976722 | 0.001013184 | 0.000988504 | 0.001004276 | 0.000979813 | 0.001009271 | 0.000984686 | 4.33381E-07 | 4.22824E-07 |
| Copper | Cu | 0.000300584 | 2.82234E-08 | 2.13952E-08 | 3.17054E-07 | 2.40347E-07 | 3.45358E-07 | 2.61804E-07 | 4.5184E-06 | 3.42524E-06 | 0.000396543 | 0.000300605 | 0.000396832 | 0.000300824 | 0.00039686 | 0.000300846 | 0.000401033 | 0.000304009 | 0.000396515 | 0.000300584 | 2.46226E-08 | 1.86655E-08 |
| Lead | Pb | 0.001788613 | 2.45779E-06 | 1.214E-06 | 3.78508E-05 | 1.8696E-05 | 4.03142E-05 | 1.99128E-05 | 4.93085E-05 | 2.43554E-05 | 0.003623576 | 0.001789827 | 0.003658969 | 0.001807309 | 0.003661432 | 0.001808526 | 0.003670427 | 0.001812968 | 0.003621118 | 0.001788613 | 2.43466E-06 | 1.20257E-06 |

## Table VI-12B Estimated Ecological Risk: Bald Eagle

| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| **Parameter** | **Symbol** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** | **Risk to Bald Eagle (NOAELb)** | **Risk to Bald Eagle (LOAELb)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 2.48322E-06 | 8.25501E-07 | 2.70379E-06 | 8.98827E-07 | 2.70431E-06 | 8.99001E-07 | 0.000917648 | 0.000305056 | 0.000919911 | 0.000305808 | 0.000920132 | 0.000305882 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 3.47725E-06 | 3.39255E-06 | 3.91163E-06 | 3.81635E-06 | 3.91163E-06 | 3.81635E-06 | 0.001009249 | 0.000984665 | 0.001000651 | 0.000976276 | 0.001012727 | 0.000988058 |
| Copper | Cu | 2.76603E-07 | 2.09683E-07 | 3.01297E-07 | 2.28402E-07 | 4.47261E-06 | 3.39053E-06 | 0.000350544 | 0.000265735 | 0.000350796 | 0.000265926 | 0.00035082 | 0.000265944 |
| Lead | Pb | 3.74946E-05 | 1.85201E-05 | 3.99348E-05 | 1.97254E-05 | 4.89282E-05 | 2.41675E-05 | 0.003590923 | 0.001773698 | 0.003625983 | 0.001791016 | 0.003628423 | 0.001792221 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.09446051 | — | — | — | — | — | 0.09446051 | — | 148.4503435 | 30.62495108 | 5.930432856 | — | — | — | — | 111.8949595 | 148.4774759 | 30.62495108 | 5.930432856 | — | — |
| Antimony | Sb | 0.007285073 | 0.000152273 | 0.0034 | — | — | — | 0.0003328 | 0.0034 | 0.065278857 | 0.00142978 | 0.031924538 | — | — | — | — | 0.031924538 | 0.065551545 | 0.00142978 | 0.031924538 | — | — |
| Arsenic | As | 0.029816561 | 0.000625997 | 0.005901016 | — | — | — | 0.000417395 | 0.022872154 | 0.170145605 | 0.003622911 | 0.034151713 | — | — | — | — | 0.132370981 | 0.172599792 | 0.003622911 | 0.034151713 | — | — |
| Cadmium | Cd | 0.0462599 | 0.000252852 | 0.043456797 | — | — | — | 9.65993E-06 | 0.00254059 | 0.136951715 | 0.000748722 | 0.128680044 | — | — | — | — | 0.007522949 | 0.137224402 | 0.000748722 | 0.128680044 | — | — |
| Cobalt | Co | 0.087653563 | 0.000768369 | 0.009418837 | — | — | — | 0.000262777 | 0.07720358 | 0.922185277 | 0.008108157 | 0.09939163 | — | — | — | — | 0.81468549 | 0.922730652 | 0.008108157 | 0.09939163 | — | — |
| Copper | Cu | 0.352627747 | 0.058340168 | 0.126281225 | — | — | — | 0.000524623 | 0.167481731 | 0.562062822 | 0.09312851 | 0.201582937 | — | — | — | — | 0.267351375 | 0.564517008 | 0.09312851 | 0.201582937 | — | — |
| Cyanide | CN- | 0.000493798 | — | — | — | — | — | 0.000493798 | — | — | — | — | — | — | — | — | — | 0.136343699 | — | — | — | — |
| Lead | Pb | 0.275902057 | 0.000173558 | 0.211927234 | — | — | — | 0.000387969 | 0.063413296 | 4.276069335 | 0.002693681 | 3.289180432 | — | — | — | — | 0.984195222 | 4.287249518 | 0.002693681 | 3.289180432 | — | — |
| Mercury | Hg | 0.001742001 | 7.30132E-05 | 0.001395472 | — | — | — | 6.74649E-06 | 0.00026677 | 0.012152656 | 0.000511339 | 0.009773027 | — | — | — | — | 0.00186829 | 0.012398075 | 0.000511339 | 0.009773027 | — | — |
| Methyl-Mercury | Me-Hg | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 | — | — | — | — | — | — | — | — | — | 0.000245419 | — | — | — | — |
| Silver | Ag | 0.002687419 | 0.000218401 | 0.001631864 | — | — | — | 3.91758E-05 | 0.000797978 | 0.028766657 | 0.002372396 | 0.017726195 | — | — | — | — | 0.008668066 | 0.028773474 | 0.002372396 | 0.017726195 | — | — |
| Thallium | Tl | 0.005349158 | 5.49876E-05 | 0.0034765 | — | — | — | 0.000117671 | 0.0017 | 0.006246529 | 6.56566E-05 | 0.00415103 | — | — | — | — | 0.002029843 | 0.093779184 | 6.56566E-05 | 0.00415103 | — | — |
| Uranium | U | 0.012252809 | 1.09975E-05 | 0.006953 | — | — | — | 0.001888812 | 0.0034 | 0.019427969 | 2.06155E-05 | 0.013033838 | — | — | — | — | 0.006373515 | 0.020109688 | 2.06155E-05 | 0.013033838 | — | — |
| Zinc | Zn | 1.234841913 | 0.125263172 | 0.649900499 | — | — | — | 0.002001835 | 0.457676407 | 8.131020488 | 0.826155345 | 4.286325828 | — | — | — | — | 3.018539316 | 8.136474236 | 0.826155345 | 4.286325828 | — | — |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.027132396 | 111.8949595 | 148.4503435 | 30.62495108 | 5.930432856 | — | — | — | — | 111.8949595 | 1.210273017 | 0.247566878 | 0.047940607 | — | — | — | 0.010225777 | 0.904539755 | 148.544804 | 30.62495108 |
| Antimony | Sb | — | 0.000272687 | 0.031924538 | 0.065278857 | 0.00142978 | 0.031924538 | — | — | — | — | 0.031924538 | 0.001017728 | 1.87838E-05 | 0.000419409 | — | — | — | 0.000160126 | 0.000419409 | 0.065611657 | 0.00142978 |
| Arsenic | As | — | 0.002454187 | 0.132370981 | 0.170145605 | 0.003622911 | 0.034151713 | — | — | — | — | 0.132370981 | 0.002105667 | 3.99795E-05 | 0.00037687 | — | — | — | 0.000228081 | 0.001460737 | 0.170563 | 0.003622911 |
| Cadmium | Cd | — | 0.000272687 | 0.007522949 | 0.136951715 | 0.000748722 | 0.128680044 | — | — | — | — | 0.007522949 | 0.00195348 | 1.05307E-05 | 0.001809872 | — | — | — | 2.72687E-05 | 0.00010581 | 0.136961375 | 0.000748722 |
| Cobalt | Co | — | 0.000545375 | 0.81468549 | 0.922185277 | 0.008108157 | 0.09939163 | — | — | — | — | 0.81468549 | 0.007654758 | 6.62243E-05 | 0.000811792 | — | — | — | 0.000122709 | 0.006654032 | 0.922448054 | 0.008108157 |
| Copper | Cu | — | 0.002454187 | 0.267351375 | 0.562062822 | 0.09312851 | 0.201582937 | — | — | — | — | 0.267351375 | 0.007221342 | 0.001083554 | 0.002345426 | — | — | — | 0.000681718 | 0.003110644 | 0.562587444 | 0.09312851 |
| Cyanide | CN- | — | 0.136343699 | — | — | — | — | — | — | — | — | — | 0.000681718 | — | — | — | — | — | 0.000681718 | — | 0.000493798 | — |
| Lead | Pb | — | 0.011180183 | 0.984195222 | 4.276069335 | 0.002693681 | 3.289180432 | — | — | — | — | 0.984195222 | 0.062022991 | 3.86415E-05 | 0.047184107 | — | — | — | 0.000681718 | 0.014118524 | 4.276457304 | 0.002693681 |
| Mercury | Hg | — | 0.000245419 | 0.00186829 | 0.012152656 | 0.000511339 | 0.009773027 | — | — | — | — | 0.00186829 | 0.000126015 | 4.1549E-06 | 7.94109E-05 | — | — | — | 2.72687E-05 | 1.51808E-05 | 0.012159403 | 0.000511339 |
| Methyl-Mercury | Me-Hg | — | 0.000245419 | — | — | — | — | — | — | — | — | — | 2.72687E-05 | — | — | — | — | — | 2.72687E-05 | — | 6.74649E-06 | — |
| Silver | Ag | — | 6.81718E-06 | 0.008668066 | 0.028766657 | 0.002372396 | 0.017726195 | — | — | — | — | 0.008668066 | 0.000586709 | 4.72762E-05 | 0.000353241 | — | — | — | 1.34579E-05 | 0.000172734 | 0.028805833 | 0.002372396 |
| Thallium | Tl | — | 0.087532655 | 0.002029843 | 0.006246529 | 6.56566E-05 | 0.00415103 | — | — | — | — | 0.002029843 | 0.000270395 | 2.41217E-06 | 0.000152505 | — | — | — | 4.09031E-05 | 7.45747E-05 | 0.0063642 | 6.56566E-05 |
| Uranium | U | — | 0.000681718 | 0.006373515 | 0.019427969 | 2.06155E-05 | 0.013033838 | — | — | — | — | 0.006373515 | 0.000983452 | 3.20177E-07 | 0.000202427 | — | — | — | 0.000681718 | 9.89863E-05 | 0.021316781 | 2.06155E-05 |
| Zinc | Zn | — | 0.005453748 | 3.018539316 | 8.131020488 | 0.826155345 | 4.286325828 | — | — | — | — | 3.018539316 | 0.10462718 | 0.010215086 | 0.052998732 | — | — | — | 0.004090311 | 0.037323051 | 8.133022323 | 0.826155345 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 5.930432856 | — | — | — | 0.09446051 | 111.8949595 | 148.4774759 | 30.62495108 | 5.930432856 | — | — | — | 0.027132396 | 111.8949595 | 148.544804 | 30.62495108 | 5.930432856 | — | — | — | 0.09446051 |
| Antimony | Sb | 0.031924538 | — | — | — | 0.0003328 | 0.031924538 | 0.065551545 | 0.00142978 | 0.031924538 | — | — | — | 0.000272687 | 0.031924538 | 0.065611657 | 0.00142978 | 0.031924538 | — | — | — | 0.0003328 |
| Arsenic | As | 0.034151713 | — | — | — | 0.000417395 | 0.132370981 | 0.172599792 | 0.003622911 | 0.034151713 | — | — | — | 0.002454187 | 0.132370981 | 0.170563 | 0.003622911 | 0.034151713 | — | — | — | 0.000417395 |
| Cadmium | Cd | 0.128680044 | — | — | — | 9.65993E-06 | 0.007522949 | 0.137224402 | 0.000748722 | 0.128680044 | — | — | — | 0.000272687 | 0.007522949 | 0.136961375 | 0.000748722 | 0.128680044 | — | — | — | 9.65993E-06 |
| Cobalt | Co | 0.09939163 | — | — | — | 0.000262777 | 0.81468549 | 0.922730652 | 0.008108157 | 0.09939163 | — | — | — | 0.000545375 | 0.81468549 | 0.922448054 | 0.008108157 | 0.09939163 | — | — | — | 0.000262777 |
| Copper | Cu | 0.201582937 | — | — | — | 0.000524623 | 0.267351375 | 0.564517008 | 0.09312851 | 0.201582937 | — | — | — | 0.002454187 | 0.267351375 | 0.562587444 | 0.09312851 | 0.201582937 | — | — | — | 0.000524623 |
| Cyanide | CN- | — | — | — | — | 0.000493798 | — | 0.136343699 | — | — | — | — | — | 0.136343699 | — | 0.000493798 | — | — | — | — | — | 0.000493798 |
| Lead | Pb | 3.289180432 | — | — | — | 0.000387969 | 0.984195222 | 4.287249518 | 0.002693681 | 3.289180432 | — | — | — | 0.011180183 | 0.984195222 | 4.276457304 | 0.002693681 | 3.289180432 | — | — | — | 0.000387969 |
| Mercury | Hg | 0.009773027 | — | — | — | 6.74649E-06 | 0.00186829 | 0.012398075 | 0.000511339 | 0.009773027 | — | — | — | 0.000245419 | 0.00186829 | 0.012159403 | 0.000511339 | 0.009773027 | — | — | — | 6.74649E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 6.74649E-06 | — | 0.000245419 | — | — | — | — | — | 0.000245419 | — | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 |
| Silver | Ag | 0.017726195 | — | — | — | 3.91758E-05 | 0.008668066 | 0.028773474 | 0.002372396 | 0.017726195 | — | — | — | 6.81718E-06 | 0.008668066 | 0.028805833 | 0.002372396 | 0.017726195 | — | — | — | 3.91758E-05 |
| Thallium | Tl | 0.00415103 | — | — | — | 0.000117671 | 0.002029843 | 0.093779184 | 6.56566E-05 | 0.00415103 | — | — | — | 0.087532655 | 0.002029843 | 0.0063642 | 6.56566E-05 | 0.00415103 | — | — | — | 0.000117671 |
| Uranium | U | 0.013033838 | — | — | — | 0.001888812 | 0.006373515 | 0.020109688 | 2.06155E-05 | 0.013033838 | — | — | — | 0.000681718 | 0.006373515 | 0.021316781 | 2.06155E-05 | 0.013033838 | — | — | — | 0.001888812 |
| Zinc | Zn | 4.286325828 | — | — | — | 0.002001835 | 3.018539316 | 8.136474236 | 0.826155345 | 4.286325828 | — | — | — | 0.005453748 | 3.018539316 | 8.133022323 | 0.826155345 | 4.286325828 | — | — | — | 0.002001835 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to American Robin from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 111.8949595 | 1.210273017 | 0.247566878 | 0.047940607 | — | — | — | 0.010225777 | 0.904539755 | 0.09446051 | — | — | — | — | — | 0.09446051 | — | 0.006726793 | 0.001387721 | 0.000268728 | — |
| Antimony | Sb | 0.031924538 | 0.007970001 | 0.000171057 | 0.003819409 | — | — | — | 0.000160126 | 0.003819409 | 0.007285073 | 0.000152273 | 0.0034 | — | — | — | 0.0003328 | 0.0034 | 2.99956E-06 | 6.56984E-08 | 1.46693E-06 | — |
| Arsenic | As | 0.132370981 | 0.031504833 | 0.000665976 | 0.006277886 | — | — | — | 0.000228081 | 0.024332891 | 0.029816561 | 0.000625997 | 0.005901016 | — | — | — | 0.000417395 | 0.022872154 | 7.8856E-06 | 1.67908E-07 | 1.5828E-06 | — |
| Cadmium | Cd | 0.007522949 | 0.04820372 | 0.000263383 | 0.045266669 | — | — | — | 2.72687E-05 | 0.0026464 | 0.0462599 | 0.000252852 | 0.043456797 | — | — | — | 9.65993E-06 | 0.00254059 | 6.48219E-06 | 3.54384E-08 | 6.09067E-06 | — |
| Cobalt | Co | 0.81468549 | 0.095045543 | 0.000834593 | 0.010230629 | — | — | — | 0.000122709 | 0.083857612 | 0.087653563 | 0.000768369 | 0.009418837 | — | — | — | 0.000262777 | 0.07720358 | 4.23097E-05 | 3.72001E-07 | 4.56007E-06 | — |
| Copper | Cu | 0.267351375 | 0.359324466 | 0.059423722 | 0.128626651 | — | — | — | 0.000681718 | 0.170592375 | 0.352627747 | 0.058340168 | 0.126281225 | — | — | — | 0.000524623 | 0.167481731 | 2.75735E-05 | 4.56867E-06 | 9.88919E-06 | — |
| Cyanide | CN- | — | 0.000681718 | — | — | — | — | — | 0.000681718 | — | 0.000493798 | — | — | — | — | — | 0.000493798 | — | — | — | — | — |
| Lead | Pb | 0.984195222 | 0.337537079 | 0.0002122 | 0.259111341 | — | — | — | 0.000681718 | 0.07753182 | 0.275902057 | 0.000173558 | 0.211927234 | — | — | — | 0.000387969 | 0.063413296 | 0.00019541 | 1.23097E-07 | 0.000150311 | — |
| Mercury | Hg | 0.00186829 | 0.00186127 | 7.71681E-05 | 0.001474883 | — | — | — | 2.72687E-05 | 0.00028195 | 0.001742001 | 7.30132E-05 | 0.001395472 | — | — | — | 6.74649E-06 | 0.00026677 | 5.6105E-07 | 2.36069E-08 | 4.5119E-07 | — |
| Methyl-Mercury | Me-Hg | — | 2.72687E-05 | — | — | — | — | — | 2.72687E-05 | — | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 | — | — | — | — | — |
| Silver | Ag | 0.008668066 | 0.003234952 | 0.000265678 | 0.001985105 | — | — | — | 1.34579E-05 | 0.000970712 | 0.002687419 | 0.000218401 | 0.001631864 | — | — | — | 3.91758E-05 | 0.000797978 | 1.31934E-06 | 1.08807E-07 | 8.12988E-07 | — |
| Thallium | Tl | 0.002029843 | 0.005501883 | 5.73997E-05 | 0.003629005 | — | — | — | 4.09031E-05 | 0.001774575 | 0.005349158 | 5.49876E-05 | 0.0034765 | — | — | — | 0.000117671 | 0.0017 | 3.1432E-07 | 3.30378E-09 | 2.08876E-07 | — |
| Uranium | U | 0.006373515 | 0.011347449 | 1.13177E-05 | 0.007155427 | — | — | — | 0.000681718 | 0.003498986 | 0.012252809 | 1.09975E-05 | 0.006953 | — | — | — | 0.001888812 | 0.0034 | 9.42293E-07 | 9.99892E-10 | 6.32165E-07 | — |
| Zinc | Zn | 3.018539316 | 1.337467258 | 0.135478258 | 0.702899231 | — | — | — | 0.004090311 | 0.494999458 | 1.234841913 | 0.125263172 | 0.649900499 | — | — | — | 0.002001835 | 0.457676407 | 0.000375813 | 3.81846E-05 | 0.000198113 | — |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| **Media** | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.005070344 | 0.054111202 | 0.011163012 | 0.002161685 | — | — | — | — | 0.040786505 | 0.06085274 | 0.012553775 | 0.002431002 | — | — | — | — | 0.045867963 | 0.155289055 |
| Antimony | Sb | — | — | — | 1.46693E-06 | 0.000878694 | 9.11908E-07 | 2.03613E-05 | — | — | — | 0.000837059 | 2.03613E-05 | 4.46411E-05 | 9.77758E-07 | 2.18317E-05 | — | — | — | — | 2.18317E-05 | 0.000377441 |
| Arsenic | As | — | — | — | 6.13489E-06 | 0.003490486 | 1.89484E-06 | 1.78619E-05 | — | — | — | 0.003401498 | 6.9232E-05 | 9.68932E-05 | 2.06315E-06 | 1.94485E-05 | — | — | — | — | 7.53816E-05 | 0.000514288 |
| Cadmium | Cd | — | — | — | 3.56076E-07 | 0.000106555 | 5.13515E-07 | 8.82559E-05 | — | — | — | 1.26263E-05 | 5.15966E-06 | 0.000100428 | 5.49045E-07 | 9.43623E-05 | — | — | — | — | 5.51665E-06 | 0.000119548 |
| Cobalt | Co | — | — | — | 3.73776E-05 | 0.000339474 | 2.98477E-06 | 3.6588E-05 | — | — | — | — | 0.000299901 | 0.000381881 | 3.35763E-06 | 4.11586E-05 | — | — | — | — | 0.000337365 | 0.000610765 |
| Copper | Cu | — | — | — | 1.31156E-05 | 0.00077726 | 5.13231E-05 | 0.000111092 | — | — | — | 0.000467507 | 0.000147337 | 0.000337406 | 5.59049E-05 | 0.00012101 | — | — | — | — | 0.000160491 | 0.000885465 |
| Cyanide | CN- | — | — | — | — | 0.000440721 | — | — | — | — | — | 0.000440721 | — | — | — | — | — | — | — | — | — | 0.000493782 |
| Lead | Pb | — | — | — | 4.49763E-05 | 0.003421849 | 1.89574E-06 | 0.002314836 | — | — | — | 0.000412467 | 0.00069265 | 0.003205235 | 2.01912E-06 | 0.002465488 | — | — | — | — | 0.000737728 | 0.003699157 |
| Mercury | Hg | — | — | — | 8.62531E-08 | 4.4401E-06 | 1.86823E-07 | 3.57068E-06 | — | — | — | — | 6.826E-07 | 5.00247E-06 | 2.10486E-07 | 4.02293E-06 | — | — | — | — | 7.69056E-07 | 1.08873E-05 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.88484E-06 |
| Silver | Ag | — | — | — | 3.97549E-07 | 2.89548E-05 | 2.38791E-06 | 1.78421E-05 | — | — | — | — | 8.72476E-06 | 3.02772E-05 | 2.49697E-06 | 1.8657E-05 | — | — | — | — | 9.12322E-06 | 6.9453E-05 |
| Thallium | Tl | — | — | — | 1.0214E-07 | 1.19421E-05 | 1.25522E-07 | 7.93592E-06 | — | — | — | — | 3.88065E-06 | 1.22574E-05 | 1.28836E-07 | 8.14544E-06 | — | — | — | — | 3.9831E-06 | 0.000129928 |
| Uranium | U | — | — | — | 3.09127E-07 | 1.48333E-05 | 1.574E-08 | 9.95138E-06 | — | — | — | — | 4.8662E-06 | 1.57782E-05 | 1.67427E-08 | 1.05853E-05 | — | — | — | — | 5.17619E-06 | 0.00190459 |
| Zinc | Zn | — | — | — | 0.000139516 | 0.006875872 | 0.000491887 | 0.002552047 | — | — | — | 0.002034722 | 0.001797216 | 0.005217853 | 0.000530162 | 0.002750629 | — | — | — | — | 0.001937062 | 0.009517554 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.012553775 | 0.002431002 | — | — | — | 0.094436315 | 0.045867963 | 0.101187304 | 0.001387721 | 0.000268728 | — | — | — | 0.09446051 | 0.005070344 | 0.14858682 | 0.011163012 | 0.002161685 | — | — | — |
| Antimony | Sb | 9.77758E-07 | 2.18317E-05 | — | — | — | 0.0003328 | 2.18317E-05 | 0.007288072 | 0.000152339 | 0.003401467 | — | — | — | 0.0003328 | 0.003401467 | 0.007830967 | 0.000153185 | 0.003420361 | — | — | — |
| Arsenic | As | 2.06315E-06 | 1.94485E-05 | — | — | — | 0.000417395 | 7.53816E-05 | 0.029824447 | 0.000626164 | 0.005902599 | — | — | — | 0.000417395 | 0.022878289 | 0.032889653 | 0.000627891 | 0.005918878 | — | — | — |
| Cadmium | Cd | 5.49045E-07 | 9.43623E-05 | — | — | — | 1.91195E-05 | 5.51665E-06 | 0.046266382 | 0.000252888 | 0.043462888 | — | — | — | 9.65993E-06 | 0.002540946 | 0.046356795 | 0.000253366 | 0.043545053 | — | — | — |
| Cobalt | Co | 3.35763E-06 | 4.11586E-05 | — | — | — | 0.000228884 | 0.000337365 | 0.087695873 | 0.000768741 | 0.009423397 | — | — | — | 0.000262777 | 0.077240958 | 0.087977078 | 0.000771353 | 0.009455425 | — | — | — |
| Copper | Cu | 5.59049E-05 | 0.00012101 | — | — | — | 0.000548059 | 0.000160491 | 0.352655321 | 0.058344736 | 0.126291115 | — | — | — | 0.000524623 | 0.167494847 | 0.3529375 | 0.058391491 | 0.126392318 | — | — | — |
| Cyanide | CN- | — | — | — | — | — | 0.000493782 | — | 0.000493798 | — | — | — | — | — | 0.000493798 | — | 0.000493798 | — | — | — | — | — |
| Lead | Pb | 2.01912E-06 | 0.002465488 | — | — | — | 0.000493922 | 0.000737728 | 0.276097467 | 0.000173681 | 0.212077545 | — | — | — | 0.000387969 | 0.063458272 | 0.278935937 | 0.000175454 | 0.21424207 | — | — | — |
| Mercury | Hg | 2.10486E-07 | 4.02293E-06 | — | — | — | 5.88484E-06 | 7.69056E-07 | 0.001742562 | 7.30368E-05 | 0.001395923 | — | — | — | 6.74649E-06 | 0.000266856 | 0.001746442 | 7.32E-05 | 0.001399043 | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 5.88484E-06 | — | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 | — | 6.74716E-06 | — | — | — | — | — |
| Silver | Ag | 2.49697E-06 | 1.8657E-05 | — | — | — | 3.91758E-05 | 9.12322E-06 | 0.002688738 | 0.00021851 | 0.001632677 | — | — | — | 3.91758E-05 | 0.000798375 | 0.002716374 | 0.000220789 | 0.001649706 | — | — | — |
| Thallium | Tl | 1.28836E-07 | 8.14544E-06 | — | — | — | 0.000117671 | 3.9831E-06 | 0.005349473 | 5.49909E-05 | 0.003476709 | — | — | — | 0.000117671 | 0.001700102 | 0.0053611 | 5.51131E-05 | 0.003484436 | — | — | — |
| Uranium | U | 1.67427E-08 | 1.05853E-05 | — | — | — | 0.001888812 | 5.17619E-06 | 0.012253751 | 1.09985E-05 | 0.006953632 | — | — | — | 0.001888812 | 0.003400309 | 0.012267643 | 1.10133E-05 | 0.006962951 | — | — | — |
| Zinc | Zn | 0.000530162 | 0.002750629 | — | — | — | 0.004299701 | 0.001937062 | 1.235217726 | 0.125301357 | 0.650098611 | — | — | — | 0.002001835 | 0.457815923 | 1.23971595 | 0.125755059 | 0.652452545 | — | — | — |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.094475618 | 0.040786505 | 0.15531325 | 0.012553775 | 0.002431002 | — | — | — | 0.09446051 | 0.045867963 | 0.155289055 | 0.012553775 | 0.002431002 | — | — | — | 0.094436315 | 0.045867963 | 0.09446051 | — | — |
| Antimony | Sb | 0.000837059 | 0.003420361 | 0.007329714 | 0.000153251 | 0.003421832 | — | — | — | 0.0003328 | 0.003421832 | 0.007329714 | 0.000153251 | 0.003421832 | — | — | — | 0.0003328 | 0.003421832 | 0.007285073 | 0.000152273 | 0.0034 |
| Arsenic | As | 0.003401498 | 0.022941386 | 0.029913454 | 0.00062806 | 0.005920464 | — | — | — | 0.000417395 | 0.022947536 | 0.029913454 | 0.00062806 | 0.005920464 | — | — | — | 0.000417395 | 0.022947536 | 0.029816561 | 0.000625997 | 0.005901016 |
| Cadmium | Cd | 1.26263E-05 | 0.00254575 | 0.046360328 | 0.000253401 | 0.04355116 | — | — | — | 9.65993E-06 | 0.002546107 | 0.046369787 | 0.000253401 | 0.04355116 | — | — | — | 1.91195E-05 | 0.002546107 | 0.0462599 | 0.000252852 | 0.043456797 |
| Cobalt | Co | 0.000246818 | 0.077503482 | 0.088035445 | 0.000771726 | 0.009459995 | — | — | — | 0.000262777 | 0.077540946 | 0.088009593 | 0.000771726 | 0.009459995 | — | — | — | 0.000236926 | 0.077540946 | 0.087653563 | 0.000768369 | 0.009418837 |
| Copper | Cu | 0.000524623 | 0.167629069 | 0.352965153 | 0.058396073 | 0.126402235 | — | — | — | 0.000524623 | 0.167642222 | 0.352988589 | 0.058396073 | 0.126402235 | — | — | — | 0.000548059 | 0.167642222 | 0.352627747 | 0.058340168 | 0.126281225 |
| Cyanide | CN- | 0.000493798 | — | 0.000493798 | — | — | — | — | — | 0.000493798 | — | 0.000493782 | — | — | — | — | — | 0.000493782 | — | 0.000493798 | — | — |
| Lead | Pb | 0.000412467 | 0.064105946 | 0.279107292 | 0.000175577 | 0.214392722 | — | — | — | 0.000387969 | 0.064151024 | 0.279213245 | 0.000175577 | 0.214392722 | — | — | — | 0.000493922 | 0.064151024 | 0.275902057 | 0.000173558 | 0.211927234 |
| Mercury | Hg | 6.74716E-06 | 0.000267452 | 0.001747004 | 7.32237E-05 | 0.001399495 | — | — | — | 6.74649E-06 | 0.000267539 | 0.001746142 | 7.32237E-05 | 0.001399495 | — | — | — | 5.88484E-06 | 0.000267539 | 0.001742001 | 7.30132E-05 | 0.001395472 |
| Methyl-Mercury | Me-Hg | 6.74716E-06 | — | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 | — | 5.88484E-06 | — | — | — | — | — | 5.88484E-06 | — | 6.74649E-06 | — | — |
| Silver | Ag | 3.91758E-05 | 0.000806702 | 0.002717696 | 0.000220898 | 0.001650521 | — | — | — | 3.91758E-05 | 0.000807101 | 0.002717696 | 0.000220898 | 0.001650521 | — | — | — | 3.91758E-05 | 0.000807101 | 0.002687419 | 0.000218401 | 0.001631864 |
| Thallium | Tl | 0.000117671 | 0.001703881 | 0.005361416 | 5.51164E-05 | 0.003484645 | — | — | — | 0.000117671 | 0.001703983 | 0.005361416 | 5.51164E-05 | 0.003484645 | — | — | — | 0.000117671 | 0.001703983 | 0.005349158 | 5.49876E-05 | 0.0034765 |
| Uranium | U | 0.001888812 | 0.003404866 | 0.012268587 | 1.10143E-05 | 0.006963585 | — | — | — | 0.001888812 | 0.003405176 | 0.012268587 | 1.10143E-05 | 0.006963585 | — | — | — | 0.001888812 | 0.003405176 | 0.012252809 | 1.09975E-05 | 0.006953 |
| Zinc | Zn | 0.002034722 | 0.459473624 | 1.240059766 | 0.125793334 | 0.652651127 | — | — | — | 0.002001835 | 0.45961347 | 1.242357632 | 0.125793334 | 0.652651127 | — | — | — | 0.004299701 | 0.45961347 | 1.234841913 | 0.125263172 | 0.649900499 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.09446051 | — | 0.006726793 | 0.001387721 | 0.000268728 | — | — | — | — | 0.005070344 | 0.054111202 | 0.011163012 | 0.002161685 | — | — | — | — | 0.040786505 |
| Antimony | Sb | — | — | — | 0.0003328 | 0.0034 | 2.99956E-06 | 6.56984E-08 | 1.46693E-06 | — | — | — | — | 1.46693E-06 | 0.000878694 | 9.11908E-07 | 2.03613E-05 | — | — | — | 0.000837059 | 2.03613E-05 |
| Arsenic | As | — | — | — | 0.000417395 | 0.022872154 | 7.8856E-06 | 1.67908E-07 | 1.5828E-06 | — | — | — | — | 6.13489E-06 | 0.003490486 | 1.89484E-06 | 1.78619E-05 | — | — | — | 0.003401498 | 6.9232E-05 |
| Cadmium | Cd | — | — | — | 9.65993E-06 | 0.00254059 | 6.48219E-06 | 3.54384E-08 | 6.09067E-06 | — | — | — | — | 3.56076E-07 | 0.000106555 | 5.13515E-07 | 8.82559E-05 | — | — | — | 1.26263E-05 | 5.15966E-06 |
| Cobalt | Co | — | — | — | 0.000262777 | 0.07720358 | 4.23097E-05 | 3.72001E-07 | 4.56007E-06 | — | — | — | — | 3.73776E-05 | 0.000339474 | 2.98477E-06 | 3.6588E-05 | — | — | — | — | 0.000299901 |
| Copper | Cu | — | — | — | 0.000524623 | 0.167481731 | 2.75735E-05 | 4.56867E-06 | 9.88919E-06 | — | — | — | — | 1.31156E-05 | 0.00077726 | 5.13231E-05 | 0.000111092 | — | — | — | 0.000467507 | 0.000147337 |
| Cyanide | CN- | — | — | — | 0.000493798 | — | — | — | — | — | — | — | — | — | 0.000440721 | — | — | — | — | — | 0.000440721 | — |
| Lead | Pb | — | — | — | 0.000387969 | 0.063413296 | 0.00019541 | 1.23097E-07 | 0.000150311 | — | — | — | — | 4.49763E-05 | 0.003421849 | 1.89574E-06 | 0.002314836 | — | — | — | 0.000412467 | 0.00069265 |
| Mercury | Hg | — | — | — | 6.74649E-06 | 0.00026677 | 5.6105E-07 | 2.36069E-08 | 4.5119E-07 | — | — | — | — | 8.62531E-08 | 4.4401E-06 | 1.86823E-07 | 3.57068E-06 | — | — | — | — | 6.826E-07 |
| Methyl-Mercury | Me-Hg | — | — | — | 6.74649E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 3.91758E-05 | 0.000797978 | 1.31934E-06 | 1.08807E-07 | 8.12988E-07 | — | — | — | — | 3.97549E-07 | 2.89548E-05 | 2.38791E-06 | 1.78421E-05 | — | — | — | — | 8.72476E-06 |
| Thallium | Tl | — | — | — | 0.000117671 | 0.0017 | 3.1432E-07 | 3.30378E-09 | 2.08876E-07 | — | — | — | — | 1.0214E-07 | 1.19421E-05 | 1.25522E-07 | 7.93592E-06 | — | — | — | — | 3.88065E-06 |
| Uranium | U | — | — | — | 0.001888812 | 0.0034 | 9.42293E-07 | 9.99892E-10 | 6.32165E-07 | — | — | — | — | 3.09127E-07 | 1.48333E-05 | 1.574E-08 | 9.95138E-06 | — | — | — | — | 4.8662E-06 |
| Zinc | Zn | — | — | — | 0.002001835 | 0.457676407 | 0.000375813 | 3.81846E-05 | 0.000198113 | — | — | — | — | 0.000139516 | 0.006875872 | 0.000491887 | 0.002552047 | — | — | — | 0.002034722 | 0.001797216 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.06085274 | 0.012553775 | 0.002431002 | — | — | — | — | 0.045867963 | 0.155289055 | 0.012553775 | 0.002431002 | — | — | — | 0.094436315 | 0.045867963 | 0.101187304 | 0.001387721 | 0.000268728 | — | — |
| Antimony | Sb | 4.46411E-05 | 9.77758E-07 | 2.18317E-05 | — | — | — | — | 2.18317E-05 | 0.000377441 | 9.77758E-07 | 2.18317E-05 | — | — | — | 0.0003328 | 2.18317E-05 | 0.007288072 | 0.000152339 | 0.003401467 | — | — |
| Arsenic | As | 9.68932E-05 | 2.06315E-06 | 1.94485E-05 | — | — | — | — | 7.53816E-05 | 0.000514288 | 2.06315E-06 | 1.94485E-05 | — | — | — | 0.000417395 | 7.53816E-05 | 0.029824447 | 0.000626164 | 0.005902599 | — | — |
| Cadmium | Cd | 0.000100428 | 5.49045E-07 | 9.43623E-05 | — | — | — | — | 5.51665E-06 | 0.000119548 | 5.49045E-07 | 9.43623E-05 | — | — | — | 1.91195E-05 | 5.51665E-06 | 0.046266382 | 0.000252888 | 0.043462888 | — | — |
| Cobalt | Co | 0.000381881 | 3.35763E-06 | 4.11586E-05 | — | — | — | — | 0.000337365 | 0.000610765 | 3.35763E-06 | 4.11586E-05 | — | — | — | 0.000228884 | 0.000337365 | 0.087695873 | 0.000768741 | 0.009423397 | — | — |
| Copper | Cu | 0.000337406 | 5.59049E-05 | 0.00012101 | — | — | — | — | 0.000160491 | 0.000885465 | 5.59049E-05 | 0.00012101 | — | — | — | 0.000548059 | 0.000160491 | 0.352655321 | 0.058344736 | 0.126291115 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000493782 | — | — | — | — | — | 0.000493782 | — | 0.000493798 | — | — | — | — |
| Lead | Pb | 0.003205235 | 2.01912E-06 | 0.002465488 | — | — | — | — | 0.000737728 | 0.003699157 | 2.01912E-06 | 0.002465488 | — | — | — | 0.000493922 | 0.000737728 | 0.276097467 | 0.000173681 | 0.212077545 | — | — |
| Mercury | Hg | 5.00247E-06 | 2.10486E-07 | 4.02293E-06 | — | — | — | — | 7.69056E-07 | 1.08873E-05 | 2.10486E-07 | 4.02293E-06 | — | — | — | 5.88484E-06 | 7.69056E-07 | 0.001742562 | 7.30368E-05 | 0.001395923 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 5.88484E-06 | — | — | — | — | — | 5.88484E-06 | — | 6.74649E-06 | — | — | — | — |
| Silver | Ag | 3.02772E-05 | 2.49697E-06 | 1.8657E-05 | — | — | — | — | 9.12322E-06 | 6.9453E-05 | 2.49697E-06 | 1.8657E-05 | — | — | — | 3.91758E-05 | 9.12322E-06 | 0.002688738 | 0.00021851 | 0.001632677 | — | — |
| Thallium | Tl | 1.22574E-05 | 1.28836E-07 | 8.14544E-06 | — | — | — | — | 3.9831E-06 | 0.000129928 | 1.28836E-07 | 8.14544E-06 | — | — | — | 0.000117671 | 3.9831E-06 | 0.005349473 | 5.49909E-05 | 0.003476709 | — | — |
| Uranium | U | 1.57782E-05 | 1.67427E-08 | 1.05853E-05 | — | — | — | — | 5.17619E-06 | 0.00190459 | 1.67427E-08 | 1.05853E-05 | — | — | — | 0.001888812 | 5.17619E-06 | 0.012253751 | 1.09985E-05 | 0.006953632 | — | — |
| Zinc | Zn | 0.005217853 | 0.000530162 | 0.002750629 | — | — | — | — | 0.001937062 | 0.009517554 | 0.000530162 | 0.002750629 | — | — | — | 0.004299701 | 0.001937062 | 1.235217726 | 0.125301357 | 0.650098611 | — | — |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) | Total Dose to American Robin (mg/kg/d) | Dose to American Robin from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.09446051 | 0.005070344 | 0.14858682 | 0.011163012 | 0.002161685 | — | — | — | 0.094475618 | 0.040786505 | 0.15531325 | 0.012553775 | 0.002431002 | — | — | — | 0.09446051 | 0.045867963 | 0.155289055 | 0.012553775 |
| Antimony | Sb | — | 0.0003328 | 0.003401467 | 0.007830967 | 0.000153185 | 0.003420361 | — | — | — | 0.000837059 | 0.003420361 | 0.007329714 | 0.000153251 | 0.003421832 | — | — | — | 0.0003328 | 0.003421832 | 0.007329714 | 0.000153251 |
| Arsenic | As | — | 0.000417395 | 0.022878289 | 0.032889653 | 0.000627891 | 0.005918878 | — | — | — | 0.003401498 | 0.022941386 | 0.029913454 | 0.00062806 | 0.005920464 | — | — | — | 0.000417395 | 0.022947536 | 0.029913454 | 0.00062806 |
| Cadmium | Cd | — | 9.65993E-06 | 0.002540946 | 0.046356795 | 0.000253366 | 0.043545053 | — | — | — | 1.26263E-05 | 0.00254575 | 0.046360328 | 0.000253401 | 0.04355116 | — | — | — | 9.65993E-06 | 0.002546107 | 0.046369787 | 0.000253401 |
| Cobalt | Co | — | 0.000262777 | 0.077240958 | 0.087977078 | 0.000771353 | 0.009455425 | — | — | — | 0.000246818 | 0.077503482 | 0.088035445 | 0.000771726 | 0.009459995 | — | — | — | 0.000262777 | 0.077540946 | 0.088009593 | 0.000771726 |
| Copper | Cu | — | 0.000524623 | 0.167494847 | 0.3529375 | 0.058391491 | 0.126392318 | — | — | — | 0.000524623 | 0.167629069 | 0.352965153 | 0.058396073 | 0.126402235 | — | — | — | 0.000524623 | 0.167642222 | 0.352988589 | 0.058396073 |
| Cyanide | CN- | — | 0.000493798 | — | 0.000493798 | — | — | — | — | — | 0.000493798 | — | 0.000493798 | — | — | — | — | — | 0.000493798 | — | 0.000493782 | — |
| Lead | Pb | — | 0.000387969 | 0.063458272 | 0.278935937 | 0.000175454 | 0.21424207 | — | — | — | 0.000412467 | 0.064105946 | 0.279107292 | 0.000175577 | 0.214392722 | — | — | — | 0.000387969 | 0.064151024 | 0.279213245 | 0.000175577 |
| Mercury | Hg | — | 6.74649E-06 | 0.000266856 | 0.001746442 | 7.32E-05 | 0.001399043 | — | — | — | 6.74716E-06 | 0.000267452 | 0.001747004 | 7.32237E-05 | 0.001399495 | — | — | — | 6.74649E-06 | 0.000267539 | 0.001746142 | 7.32237E-05 |
| Methyl-Mercury | Me-Hg | — | 6.74649E-06 | — | 6.74716E-06 | — | — | — | — | — | 6.74716E-06 | — | 6.74649E-06 | — | — | — | — | — | 6.74649E-06 | — | 5.88484E-06 | — |
| Silver | Ag | — | 3.91758E-05 | 0.000798375 | 0.002716374 | 0.000220789 | 0.001649706 | — | — | — | 3.91758E-05 | 0.000806702 | 0.002717696 | 0.000220898 | 0.001650521 | — | — | — | 3.91758E-05 | 0.000807101 | 0.002717696 | 0.000220898 |
| Thallium | Tl | — | 0.000117671 | 0.001700102 | 0.0053611 | 5.51131E-05 | 0.003484436 | — | — | — | 0.000117671 | 0.001703881 | 0.005361416 | 5.51164E-05 | 0.003484645 | — | — | — | 0.000117671 | 0.001703983 | 0.005361416 | 5.51164E-05 |
| Uranium | U | — | 0.001888812 | 0.003400309 | 0.012267643 | 1.10133E-05 | 0.006962951 | — | — | — | 0.001888812 | 0.003404866 | 0.012268587 | 1.10143E-05 | 0.006963585 | — | — | — | 0.001888812 | 0.003405176 | 0.012268587 | 1.10143E-05 |
| Zinc | Zn | — | 0.002001835 | 0.457815923 | 1.23971595 | 0.125755059 | 0.652452545 | — | — | — | 0.002034722 | 0.459473624 | 1.240059766 | 0.125793334 | 0.652651127 | — | — | — | 0.002001835 | 0.45961347 | 1.242357632 | 0.125793334 |

## Table VI-13A Estimated Ecological Exposure Dose: American Robin

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to American Robin from the consumption of Invertebrate_1 (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of — (mg/kg/d) | Dose to American Robin from the consumption of media_Water (dry) (mg/kg/d) | Dose to American Robin from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.002431002 | — | — | — | 0.094436315 | 0.045867963 |
| Antimony | Sb | 0.003421832 | — | — | — | 0.0003328 | 0.003421832 |
| Arsenic | As | 0.005920464 | — | — | — | 0.000417395 | 0.022947536 |
| Cadmium | Cd | 0.04355116 | — | — | — | 1.91195E-05 | 0.002546107 |
| Cobalt | Co | 0.009459995 | — | — | — | 0.000236926 | 0.077540946 |
| Copper | Cu | 0.126402235 | — | — | — | 0.000548059 | 0.167642222 |
| Cyanide | CN- | — | — | — | — | 0.000493782 | — |
| Lead | Pb | 0.214392722 | — | — | — | 0.000493922 | 0.064151024 |
| Mercury | Hg | 0.001399495 | — | — | — | 5.88484E-06 | 0.000267539 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 5.88484E-06 | — |
| Silver | Ag | 0.001650521 | — | — | — | 3.91758E-05 | 0.000807101 |
| Thallium | Tl | 0.003484645 | — | — | — | 0.000117671 | 0.001703983 |
| Uranium | U | 0.006963585 | — | — | — | 0.001888812 | 0.003405176 |
| Zinc | Zn | 0.652651127 | — | — | — | 0.004299701 | 0.45961347 |

## Table VI-13B Estimated Ecological Risk: American Robin

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.00086108 | 0.00086108 | 1.35323923 | 1.35323923 | 1.353486562 | 1.353486562 | 0.000247333 | 0.000247333 | 1.35323923 | 1.35323923 | 0.011032571 | 0.011032571 | 1.35410031 | 1.35410031 | 1.353486562 | 1.353486562 | 1.35410031 | 1.35410031 | 0.011032571 | 0.011032571 | 0.00086108 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.012120553 | 0.004029265 | 0.06916488 | 0.022992649 | 0.070162517 | 0.023324296 | 0.000997637 | 0.000331647 | 0.06916488 | 0.022992649 | 0.000855962 | 0.00028455 | 0.069334553 | 0.023049054 | 0.070162517 | 0.023324296 | 0.069334553 | 0.023049054 | 0.012806843 | 0.00425741 | 0.012120553 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.011518208 | 0.011237636 | 0.12118072 | 0.118228882 | 0.121252385 | 0.118298801 | 7.16655E-05 | 6.99198E-05 | 0.12118072 | 0.118228882 | 0.001005881 | 0.000981379 | 0.12121525 | 0.118262571 | 0.121252385 | 0.118298801 | 0.12121525 | 0.118262571 | 0.012489559 | 0.012185326 | 0.011518208 |
| Copper | Cu | 0.007502718 | 0.005687544 | 0.011958783 | 0.009065529 | 0.012011 | 0.009105113 | 5.22167E-05 | 3.95837E-05 | 0.011958783 | 0.009065529 | 0.000153646 | 0.000116473 | 0.011969946 | 0.009073991 | 0.012011 | 0.009105113 | 0.011969946 | 0.009073991 | 0.007645201 | 0.005795556 | 0.007502718 |
| Cyanide | CN- | — | 0.00235142 | — | — | — | 0.649255708 | — | 0.649255708 | — | — | — | 0.003246279 | — | 0.00235142 | — | 0.649255708 | — | 0.00235142 | — | 0.003246279 | — |
| Lead | Pb | 0.169265066 | 0.083606684 | 2.62335542 | 1.295778586 | 2.630214428 | 1.299166521 | 0.006859008 | 0.003387934 | 2.62335542 | 1.295778586 | 0.038050914 | 0.018794846 | 2.623593438 | 1.295896153 | 2.630214428 | 1.299166521 | 2.623593438 | 1.295896153 | 0.207077962 | 0.102283963 | 0.169265066 |
| Mercury | Hg | 0.003871114 | 0.001935557 | 0.027005903 | 0.013502951 | 0.027551278 | 0.013775639 | 0.000545375 | 0.000272687 | 0.027005903 | 0.013502951 | 0.000280034 | 0.000140017 | 0.027020895 | 0.013510447 | 0.027551278 | 0.013775639 | 0.027020895 | 0.013510447 | 0.004136156 | 0.002068078 | 0.003871114 |
| Methyl-Mercury | Me-Hg | 0.00105414 | 0.000105414 | — | — | 0.038346665 | 0.003834667 | 0.038346665 | 0.003834667 | — | — | 0.004260741 | 0.000426074 | 0.00105414 | 0.000105414 | 0.038346665 | 0.003834667 | 0.00105414 | 0.000105414 | 0.004260741 | 0.000426074 | 0.00105414 |
| Silver | Ag | 0.001330405 | 0.000133041 | 0.014240919 | 0.001424092 | 0.014244294 | 0.001424429 | 3.37484E-06 | 3.37484E-07 | 0.014240919 | 0.001424092 | 0.00029045 | 2.9045E-05 | 0.014260313 | 0.001426031 | 0.014244294 | 0.001424429 | 0.014260313 | 0.001426031 | 0.001601462 | 0.000160146 | 0.001330405 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.085161511 | 0.009426274 | 0.560760034 | 0.062068859 | 0.561136154 | 0.06211049 | 0.000376121 | 4.16317E-05 | 0.560760034 | 0.062068859 | 0.007215668 | 0.000798681 | 0.560898091 | 0.06208414 | 0.561136154 | 0.06211049 | 0.560898091 | 0.06208414 | 0.092239121 | 0.010209674 | 0.085161511 |

## Table VI-13B Estimated Ecological Risk: American Robin

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.00086108 | 6.13199E-05 | 6.13199E-05 | 0.000493265 | 0.000493265 | 0.00055472 | 0.00055472 | 0.001415579 | 0.001415579 | 0.0009224 | 0.0009224 | 0.001354483 | 0.001354483 | 0.0014158 | 0.0014158 | 0.001415579 | 0.001415579 | 0.00086108 | 0.00086108 | 6.13199E-05 | 6.13199E-05 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.004029265 | 3.20553E-06 | 1.06562E-06 | 0.001418897 | 0.000471687 | 3.93875E-05 | 1.30937E-05 | 0.00020906 | 6.94984E-05 | 0.012123759 | 0.004030331 | 0.013369778 | 0.004444548 | 0.012159941 | 0.004042359 | 0.012159941 | 0.004042359 | 0.012120553 | 0.004029265 | 3.20553E-06 | 1.06562E-06 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.011237636 | 5.55975E-06 | 5.42432E-06 | 4.4609E-05 | 4.35223E-05 | 5.01815E-05 | 4.89592E-05 | 8.02582E-05 | 7.83032E-05 | 0.011523768 | 0.011243061 | 0.01156072 | 0.011279113 | 0.01156839 | 0.011286595 | 0.011564993 | 0.011283281 | 0.011518208 | 0.011237636 | 5.55975E-06 | 5.42432E-06 |
| Copper | Cu | 0.005687544 | 5.8667E-07 | 4.44734E-07 | 1.65374E-05 | 1.25364E-05 | 7.17884E-06 | 5.44203E-06 | 1.88397E-05 | 1.42817E-05 | 0.007503305 | 0.005687989 | 0.007509309 | 0.00569254 | 0.007509897 | 0.005692986 | 0.007510396 | 0.005693364 | 0.007502718 | 0.005687544 | 5.8667E-07 | 4.44734E-07 |
| Cyanide | CN- | 0.00235142 | — | — | — | 0.002098671 | — | — | — | 0.002351342 | — | 0.00235142 | — | 0.00235142 | — | 0.00235142 | — | 0.002351342 | — | 0.00235142 | — | — |
| Lead | Pb | 0.083606684 | 0.000119883 | 5.92152E-05 | 0.002099294 | 0.001036924 | 0.001966402 | 0.000971283 | 0.002269421 | 0.001120957 | 0.169384949 | 0.083665899 | 0.171126342 | 0.084526042 | 0.171231467 | 0.084577967 | 0.171296469 | 0.084610074 | 0.169265066 | 0.083606684 | 0.000119883 | 5.92152E-05 |
| Mercury | Hg | 0.001935557 | 1.24678E-06 | 6.23389E-07 | 9.86689E-06 | 4.93345E-06 | 1.11166E-05 | 5.5583E-06 | 2.4194E-05 | 1.2097E-05 | 0.003872361 | 0.00193618 | 0.003880983 | 0.001940491 | 0.003882231 | 0.001941115 | 0.003880316 | 0.001940158 | 0.003871114 | 0.001935557 | 1.24678E-06 | 6.23389E-07 |
| Methyl-Mercury | Me-Hg | 0.000105414 | — | — | — | — | — | — | 0.000919506 | 9.19506E-05 | 0.00105414 | 0.000105414 | 0.001054243 | 0.000105424 | 0.00105414 | 0.000105414 | 0.000919506 | 9.19506E-05 | 0.00105414 | 0.000105414 | — | — |
| Silver | Ag | 0.000133041 | 6.53141E-07 | 6.53141E-08 | 1.43341E-05 | 1.43341E-06 | 1.49887E-05 | 1.49887E-06 | 3.43827E-05 | 3.43827E-06 | 0.001331059 | 0.000133106 | 0.00134474 | 0.000134474 | 0.001345394 | 0.000134539 | 0.001345394 | 0.000134539 | 0.001330405 | 0.000133041 | 6.53141E-07 | 6.53141E-08 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.009426274 | 2.59181E-05 | 2.8688E-06 | 0.000474198 | 5.24876E-05 | 0.000359852 | 3.98309E-05 | 0.000656383 | 7.26531E-05 | 0.085187429 | 0.009429143 | 0.085497652 | 0.009463481 | 0.085521363 | 0.009466105 | 0.085679837 | 0.009483646 | 0.085161511 | 0.009426274 | 2.59181E-05 | 2.8688E-06 |

## Table VI-13B Estimated Ecological Risk: American Robin

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) | Risk to American Robin (NOAELb) | Risk to American Robin (LOAELb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.000493265 | 0.000493265 | 0.00055472 | 0.00055472 | 0.001415579 | 0.001415579 | 0.0009224 | 0.0009224 | 0.001354483 | 0.001354483 | 0.0014158 | 0.0014158 |
| Antimony | Sb | — | — | — | — | — | — | — | — | — | — | — | — |
| Arsenic | As | 0.001418897 | 0.000471687 | 3.93875E-05 | 1.30937E-05 | 0.00020906 | 6.94984E-05 | 0.012123759 | 0.004030331 | 0.013369778 | 0.004444548 | 0.012159941 | 0.004042359 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 4.4609E-05 | 4.35223E-05 | 5.01815E-05 | 4.89592E-05 | 8.02582E-05 | 7.83032E-05 | 0.011523768 | 0.011243061 | 0.01156072 | 0.011279113 | 0.01156839 | 0.011286595 |
| Copper | Cu | 1.65374E-05 | 1.25364E-05 | 7.17884E-06 | 5.44203E-06 | 1.88397E-05 | 1.42817E-05 | 0.007503305 | 0.005687989 | 0.007509309 | 0.00569254 | 0.007509897 | 0.005692986 |
| Cyanide | CN- | — | 0.002098671 | — | — | — | 0.002351342 | — | 0.00235142 | — | 0.00235142 | — | 0.00235142 |
| Lead | Pb | 0.002099294 | 0.001036924 | 0.001966402 | 0.000971283 | 0.002269421 | 0.001120957 | 0.169384949 | 0.083665899 | 0.171126342 | 0.084526042 | 0.171231467 | 0.084577967 |
| Mercury | Hg | 9.86689E-06 | 4.93345E-06 | 1.11166E-05 | 5.5583E-06 | 2.4194E-05 | 1.2097E-05 | 0.003872361 | 0.00193618 | 0.003880983 | 0.001940491 | 0.003882231 | 0.001941115 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 0.000919506 | 9.19506E-05 | 0.00105414 | 0.000105414 | 0.001054243 | 0.000105424 | 0.00105414 | 0.000105414 |
| Silver | Ag | 1.43341E-05 | 1.43341E-06 | 1.49887E-05 | 1.49887E-06 | 3.43827E-05 | 3.43827E-06 | 0.001331059 | 0.000133106 | 0.00134474 | 0.000134474 | 0.001345394 | 0.000134539 |
| Thallium | Tl | — | — | — | — | — | — | — | — | — | — | — | — |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.000474198 | 5.24876E-05 | 0.000359852 | 3.98309E-05 | 0.000656383 | 7.26531E-05 | 0.085187429 | 0.009429143 | 0.085497652 | 0.009463481 | 0.085521363 | 0.009466105 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations |
| Media | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.037485725 | — | — | — | — | — | 0.037485725 | — | 961.6384464 | 888.5776199 | 10.86039313 | — | — | — | — | 62.20043339 | 961.6492136 | 888.5776199 | 10.86039313 | — | — |
| Antimony | Sb | 0.007476068 | 0.0054 | 0.000054 | — | — | — | 0.000132068 | 0.00189 | 0.068957003 | 0.050703679 | 0.000507037 | — | — | — | — | 0.017746288 | 0.069065216 | 0.050703679 | 0.000507037 | — | — |
| Arsenic | As | 0.019640605 | 0.006538745 | 0.000221994 | — | — | — | 0.000165639 | 0.012714227 | 0.112709997 | 0.037842528 | 0.001284777 | — | — | — | — | 0.073582692 | 0.113683917 | 0.037842528 | 0.001284777 | — | — |
| Cadmium | Cd | 0.00402768 | 0.00252191 | 8.96679E-05 | — | — | — | 3.83345E-06 | 0.001412269 | 0.011915024 | 0.007467633 | 0.000265516 | — | — | — | — | 0.004181875 | 0.012023237 | 0.007467633 | 0.000265516 | — | — |
| Cobalt | Co | 0.055554617 | 0.012261745 | 0.000272483 | — | — | — | 0.000104281 | 0.042916108 | 0.585135872 | 0.129391225 | 0.002875361 | — | — | — | — | 0.452869287 | 0.585352299 | 0.129391225 | 0.002875361 | — | — |
| Copper | Cu | 0.645998044 | 0.532000794 | 0.02068892 | — | — | — | 0.000208191 | 0.093100139 | 1.030875449 | 0.84923378 | 0.033025758 | — | — | — | — | 0.148615911 | 1.031849369 | 0.84923378 | 0.033025758 | — | — |
| Cyanide | CN- | 0.000195959 | — | — | — | — | — | 0.000195959 | — | — | — | — | — | — | — | — | — | 0.054106657 | — | — | — | — |
| Lead | Pb | 0.05812677 | 0.022660928 | 6.15482E-05 | — | — | — | 0.000153962 | 0.035250332 | 0.899757061 | 0.351705057 | 0.000955248 | — | — | — | — | 0.547096756 | 0.904193807 | 0.351705057 | 0.000955248 | — | — |
| Mercury | Hg | 0.002295327 | 0.002118465 | 2.58923E-05 | — | — | — | 2.67728E-06 | 0.000148293 | 0.016056307 | 0.014836423 | 0.000181334 | — | — | — | — | 0.00103855 | 0.016153699 | 0.014836423 | 0.000181334 | — | — |
| Methyl-Mercury | Me-Hg | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 | — | — | — | — | — | — | — | — | — | 9.7392E-05 | — | — | — | — |
| Silver | Ag | 0.00053772 | 1.14064E-06 | 7.74508E-05 | — | — | — | 1.55465E-05 | 0.000443582 | 0.005672128 | 1.23902E-05 | 0.000841312 | — | — | — | — | 0.004818425 | 0.005674833 | 1.23902E-05 | 0.000841312 | — | — |
| Thallium | Tl | 0.001065197 | 0.000054 | 0.0000195 | — | — | — | 4.66965E-05 | 0.000945 | 0.001216115 | 6.44774E-05 | 2.32835E-05 | — | — | — | — | 0.001128354 | 0.035952589 | 6.44774E-05 | 2.32835E-05 | — | — |
| Uranium | U | 0.003183456 | 0.00054 | 0.0000039 | — | — | — | 0.000749556 | 0.00189 | 0.0045625 | 0.001012264 | 7.3108E-06 | — | — | — | — | 0.003542925 | 0.004833033 | 0.001012264 | 7.3108E-06 | — | — |
| Zinc | Zn | 1.20825246 | 0.908622279 | 0.044421534 | — | — | — | 0.000794408 | 0.254414238 | 7.963616959 | 5.992688347 | 0.292975875 | — | — | — | — | 1.677952737 | 7.965781225 | 5.992688347 | 0.292975875 | — | — |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project |
| **Phase** | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.010767225 | 62.20043339 | 961.6384464 | 888.5776199 | 10.86039313 | — | — | — | — | 62.20043339 | 7.77777907 | 7.183109819 | 0.087793564 | — | — | — | 0.004057999 | 0.502817687 | 961.6759321 | 888.5776199 |
| Antimony | Sb | — | 0.000108213 | 0.017746288 | 0.068957003 | 0.050703679 | 0.000507037 | — | — | — | — | 0.017746288 | 0.000969468 | 0.00066612 | 6.6612E-06 | — | — | — | 6.35442E-05 | 0.000233142 | 0.069089071 | 0.050703679 |
| Arsenic | As | — | 0.00097392 | 0.073582692 | 0.112709997 | 0.037842528 | 0.001284777 | — | — | — | — | 0.073582692 | 0.001334286 | 0.000417599 | 1.41777E-05 | — | — | — | 9.05115E-05 | 0.000811998 | 0.112875636 | 0.037842528 |
| Cadmium | Cd | — | 0.000108213 | 0.004181875 | 0.011915024 | 0.007467633 | 0.000265516 | — | — | — | — | 0.004181875 | 0.000178405 | 0.000105031 | 3.73445E-06 | — | — | — | 1.08213E-05 | 5.88176E-05 | 0.011918857 | 0.007467633 |
| Cobalt | Co | — | 0.000216427 | 0.452869287 | 0.585135872 | 0.129391225 | 0.002875361 | — | — | — | — | 0.452869287 | 0.004827857 | 0.001056817 | 2.34848E-05 | — | — | — | 4.8696E-05 | 0.003698859 | 0.585240153 | 0.129391225 |
| Copper | Cu | — | 0.00097392 | 0.148615911 | 1.030875449 | 0.84923378 | 0.033025758 | — | — | — | — | 0.148615911 | 0.012264811 | 0.009880869 | 0.000384256 | — | — | — | 0.000270533 | 0.001729152 | 1.031083641 | 0.84923378 |
| Cyanide | CN- | — | 0.054106657 | — | — | — | — | — | — | — | — | — | 0.000270533 | — | — | — | — | — | 0.000270533 | — | 0.000195959 | — |
| Lead | Pb | — | 0.004436746 | 0.547096756 | 0.899757061 | 0.351705057 | 0.000955248 | — | — | — | — | 0.547096756 | 0.013177771 | 0.005045296 | 1.37033E-05 | — | — | — | 0.000270533 | 0.007848238 | 0.899911023 | 0.351705057 |
| Mercury | Hg | — | 9.7392E-05 | 0.00103855 | 0.016056307 | 0.014836423 | 0.000181334 | — | — | — | — | 0.00103855 | 0.000141287 | 0.000120554 | 1.47343E-06 | — | — | — | 1.08213E-05 | 8.43876E-06 | 0.016058984 | 0.014836423 |
| Methyl-Mercury | Me-Hg | — | 9.7392E-05 | — | — | — | — | — | — | — | — | — | 1.08213E-05 | — | — | — | — | — | 1.08213E-05 | — | 2.67728E-06 | — |
| Silver | Ag | — | 2.70533E-06 | 0.004818425 | 0.005672128 | 1.23902E-05 | 0.000841312 | — | — | — | — | 0.004818425 | 0.000118373 | 2.46908E-07 | 1.67654E-05 | — | — | — | 5.34063E-06 | 9.60198E-05 | 0.005687674 | 1.23902E-05 |
| Thallium | Tl | — | 0.034736474 | 0.001128354 | 0.001216115 | 6.44774E-05 | 2.32835E-05 | — | — | — | — | 0.001128354 | 6.0911E-05 | 2.36884E-06 | 8.55416E-07 | — | — | — | 1.6232E-05 | 4.14548E-05 | 0.001262811 | 6.44774E-05 |
| Uranium | U | — | 0.000270533 | 0.003542925 | 0.0045625 | 0.001012264 | 7.3108E-06 | — | — | — | — | 0.003542925 | 0.000341393 | 1.57213E-05 | 1.13543E-07 | — | — | — | 0.000270533 | 5.50247E-05 | 0.005312056 | 0.001012264 |
| Zinc | Zn | — | 0.002164266 | 1.677952737 | 7.963616959 | 5.992688347 | 0.292975875 | — | — | — | — | 1.677952737 | 0.10009019 | 0.074097233 | 0.003622531 | — | — | — | 0.0016232 | 0.020747225 | 7.964411367 | 5.992688347 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure |
| Media | Plant_2 | — | — | — | media_Water (dry) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (supernatant) | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) |
| | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Media_Water (supernatant) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 10.86039313 | — | — | — | 0.037485725 | 62.20043339 | 961.6492136 | 888.5776199 | 10.86039313 | — | — | — | 0.010767225 | 62.20043339 | 961.6759321 | 888.5776199 | 10.86039313 | — | — | — | 0.037485725 |
| Antimony | Sb | 0.000507037 | — | — | — | 0.000132068 | 0.017746288 | 0.069065216 | 0.050703679 | 0.000507037 | — | — | — | 0.000108213 | 0.017746288 | 0.069089071 | 0.050703679 | 0.000507037 | — | — | — | 0.000132068 |
| Arsenic | As | 0.001284777 | — | — | — | 0.000165639 | 0.073582692 | 0.113683917 | 0.037842528 | 0.001284777 | — | — | — | 0.00097392 | 0.073582692 | 0.112875636 | 0.037842528 | 0.001284777 | — | — | — | 0.000165639 |
| Cadmium | Cd | 0.000265516 | — | — | — | 3.83345E-06 | 0.004181875 | 0.012023237 | 0.007467633 | 0.000265516 | — | — | — | 0.000108213 | 0.004181875 | 0.011918857 | 0.007467633 | 0.000265516 | — | — | — | 3.83345E-06 |
| Cobalt | Co | 0.002875361 | — | — | — | 0.000104281 | 0.452869287 | 0.585352299 | 0.129391225 | 0.002875361 | — | — | — | 0.000216427 | 0.452869287 | 0.585240153 | 0.129391225 | 0.002875361 | — | — | — | 0.000104281 |
| Copper | Cu | 0.033025758 | — | — | — | 0.000208191 | 0.148615911 | 1.031849369 | 0.84923378 | 0.033025758 | — | — | — | 0.00097392 | 0.148615911 | 1.031083641 | 0.84923378 | 0.033025758 | — | — | — | 0.000208191 |
| Cyanide | CN- | — | — | — | — | 0.000195959 | — | 0.054106657 | — | — | — | — | — | 0.054106657 | — | 0.000195959 | — | — | — | — | — | 0.000195959 |
| Lead | Pb | 0.000955248 | — | — | — | 0.000153962 | 0.547096756 | 0.904193807 | 0.351705057 | 0.000955248 | — | — | — | 0.004436746 | 0.547096756 | 0.899911023 | 0.351705057 | 0.000955248 | — | — | — | 0.000153962 |
| Mercury | Hg | 0.000181334 | — | — | — | 2.67728E-06 | 0.00103855 | 0.016153699 | 0.014836423 | 0.000181334 | — | — | — | 9.7392E-05 | 0.00103855 | 0.016058984 | 0.014836423 | 0.000181334 | — | — | — | 2.67728E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 2.67728E-06 | — | 9.7392E-05 | — | — | — | — | — | 9.7392E-05 | — | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 |
| Silver | Ag | 0.000841312 | — | — | — | 1.55465E-05 | 0.004818425 | 0.005674833 | 1.23902E-05 | 0.000841312 | — | — | — | 2.70533E-06 | 0.004818425 | 0.005687674 | 1.23902E-05 | 0.000841312 | — | — | — | 1.55465E-05 |
| Thallium | Tl | 2.32835E-05 | — | — | — | 4.66965E-05 | 0.001128354 | 0.035952589 | 6.44774E-05 | 2.32835E-05 | — | — | — | 0.034736474 | 0.001128354 | 0.001262811 | 6.44774E-05 | 2.32835E-05 | — | — | — | 4.66965E-05 |
| Uranium | U | 7.3108E-06 | — | — | — | 0.000749556 | 0.003542925 | 0.004833033 | 0.001012264 | 7.3108E-06 | — | — | — | 0.000270533 | 0.003542925 | 0.005312056 | 0.001012264 | 7.3108E-06 | — | — | — | 0.000749556 |
| Zinc | Zn | 0.292975875 | — | — | — | 0.000794408 | 1.677952737 | 7.965781225 | 5.992688347 | 0.292975875 | — | — | — | 0.002164266 | 1.677952737 | 7.964411367 | 5.992688347 | 0.292975875 | — | — | — | 0.000794408 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only |
| Phase | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| Media | media_Waste Rock | — | Plant_1 | Plant_2 | — | — | — | Media_Water (pit lake dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — |
| | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of media_Waste Rock (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Media_Water (pit lake dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 62.20043339 | 7.77777907 | 7.183109819 | 0.087793564 | — | — | — | 0.004057999 | 0.502817687 | 0.037485725 | — | — | — | — | — | 0.037485725 | — | 0.043575131 | 0.040264495 | 0.000492122 | — |
| Antimony | Sb | 0.017746288 | 0.008313468 | 0.00606612 | 6.06612E-05 | — | — | — | 6.35442E-05 | 0.002123142 | 0.007476068 | 0.0054 | 0.000054 | — | — | — | 0.000132068 | 0.00189 | 3.16857E-06 | 2.32983E-06 | 2.32983E-08 | — |
| Arsenic | As | 0.073582692 | 0.020809252 | 0.006956344 | 0.000236172 | — | — | — | 9.05115E-05 | 0.013526225 | 0.019640605 | 0.006538745 | 0.000221994 | — | — | — | 0.000165639 | 0.012714227 | 5.22368E-06 | 1.75386E-06 | 5.95445E-08 | — |
| Cadmium | Cd | 0.004181875 | 0.004202252 | 0.002626941 | 9.34023E-05 | — | — | — | 1.08213E-05 | 0.001471087 | 0.00402768 | 0.00252191 | 8.96679E-05 | — | — | — | 3.83345E-06 | 0.001412269 | 5.63961E-07 | 3.53457E-07 | 1.25674E-08 | — |
| Cobalt | Co | 0.452869287 | 0.060278193 | 0.013318562 | 0.000295968 | — | — | — | 4.8696E-05 | 0.046614967 | 0.055554617 | 0.012261745 | 0.000272483 | — | — | — | 0.000104281 | 0.042916108 | 2.68459E-05 | 5.93645E-06 | 1.31921E-07 | — |
| Copper | Cu | 0.148615911 | 0.658054663 | 0.541881663 | 0.021073176 | — | — | — | 0.000270533 | 0.094829291 | 0.645998044 | 0.532000794 | 0.02068892 | — | — | — | 0.000208191 | 0.093100139 | 5.05723E-05 | 4.16614E-05 | 1.62017E-06 | — |
| Cyanide | CN- | — | 0.000270533 | — | — | — | — | — | 0.000270533 | — | 0.000195959 | — | — | — | — | — | 0.000195959 | — | — | — | — | — |
| Lead | Pb | 0.547096756 | 0.071150579 | 0.027706224 | 7.52515E-05 | — | — | — | 0.000270533 | 0.04309857 | 0.05812677 | 0.022660928 | 6.15482E-05 | — | — | — | 0.000153962 | 0.035250332 | 4.11176E-05 | 1.60724E-05 | 4.36534E-08 | — |
| Mercury | Hg | 0.00103855 | 0.002433937 | 0.002239019 | 2.73658E-05 | — | — | — | 1.08213E-05 | 0.000156731 | 0.002295327 | 0.002118465 | 2.58923E-05 | — | — | — | 2.67728E-06 | 0.000148293 | 7.41269E-07 | 6.84951E-07 | 8.37162E-09 | — |
| Methyl-Mercury | Me-Hg | — | 1.08213E-05 | — | — | — | — | — | 1.08213E-05 | — | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 | — | — | — | — | — |
| Silver | Ag | 0.004818425 | 0.000640546 | 1.38755E-06 | 9.42161E-05 | — | — | — | 5.34063E-06 | 0.000539601 | 0.00053772 | 1.14064E-06 | 7.74508E-05 | — | — | — | 1.55465E-05 | 0.000443582 | 2.60145E-07 | 5.68262E-10 | 3.85857E-08 | — |
| Thallium | Tl | 0.001128354 | 0.001079411 | 5.63688E-05 | 2.03554E-05 | — | — | — | 1.6232E-05 | 0.000986455 | 0.001065197 | 0.000054 | 0.0000195 | — | — | — | 4.66965E-05 | 0.000945 | 6.11938E-08 | 3.24444E-09 | 1.17161E-09 | — |
| Uranium | U | 0.003542925 | 0.002775293 | 0.000555721 | 4.01354E-06 | — | — | — | 0.000270533 | 0.001945025 | 0.003183456 | 0.00054 | 0.0000039 | — | — | — | 0.000749556 | 0.00189 | 2.2129E-07 | 4.90967E-08 | 3.54587E-10 | — |
| Zinc | Zn | 1.677952737 | 1.307548241 | 0.982719513 | 0.048044065 | — | — | — | 0.0016232 | 0.275161464 | 1.20825246 | 0.908622279 | 0.044421534 | — | — | — | 0.000794408 | 0.254414238 | 0.000368076 | 0.00027698 | 1.35412E-05 | — |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| Phase | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure |
| Media | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — |
| | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.002818515 | 0.350524025 | 0.323892837 | 0.00395869 | — | — | — | — | 0.022672499 | 0.394194673 | 0.364245591 | 0.004451891 | — | — | — | — | 0.025497191 | 0.431670797 |
| Antimony | Sb | — | — | — | 8.15441E-07 | 0.000376159 | 3.23386E-05 | 3.23386E-07 | — | — | — | 0.000332179 | 1.13185E-05 | 4.71564E-05 | 3.46738E-05 | 3.46738E-07 | — | — | — | — | 1.21358E-05 | 0.000179225 |
| Arsenic | As | — | — | — | 3.41028E-06 | 0.0014088 | 1.97922E-05 | 6.71958E-07 | — | — | — | 0.001349851 | 3.84849E-05 | 6.41852E-05 | 2.15503E-05 | 7.31645E-07 | — | — | — | — | 4.19033E-05 | 0.000229824 |
| Cadmium | Cd | — | — | — | 1.97936E-07 | 1.31826E-05 | 5.12172E-06 | 1.82106E-07 | — | — | — | 5.01061E-06 | 2.86816E-06 | 8.7374E-06 | 5.47609E-06 | 1.94705E-07 | — | — | — | — | 3.06661E-06 | 1.63248E-05 |
| Cobalt | Co | — | — | — | 2.07776E-05 | 0.0002154 | 4.76314E-05 | 1.05848E-06 | — | — | — | — | 0.00016671 | 0.000242308 | 5.35815E-05 | 1.1907E-06 | — | — | — | — | 0.000187535 | 0.000333138 |
| Copper | Cu | — | — | — | 7.29075E-06 | 0.000753641 | 0.000468012 | 1.82005E-05 | — | — | — | 0.000185526 | 8.19022E-05 | 0.000618833 | 0.000509794 | 1.98253E-05 | — | — | — | — | 8.92139E-05 | 0.000836325 |
| Cyanide | CN- | — | — | — | — | 0.000174896 | — | — | — | — | — | 0.000174896 | — | — | — | — | — | — | — | — | — | 0.000195952 |
| Lead | Pb | — | — | — | 2.50015E-05 | 0.000796908 | 0.00024752 | 6.72278E-07 | — | — | — | 0.000163684 | 0.000385032 | 0.000674435 | 0.000263629 | 7.1603E-07 | — | — | — | — | 0.00041009 | 0.000870443 |
| Mercury | Hg | — | — | — | 4.79466E-08 | 5.86634E-06 | 5.42064E-06 | 6.62523E-08 | — | — | — | — | 3.79445E-07 | 6.60936E-06 | 6.10721E-06 | 7.46437E-08 | — | — | — | — | 4.27505E-07 | 8.9447E-06 |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.33534E-06 |
| Silver | Ag | — | — | — | 2.20991E-07 | 5.70923E-06 | 1.24713E-08 | 8.46815E-07 | — | — | — | — | 4.84994E-06 | 5.96997E-06 | 1.30408E-08 | 8.85489E-07 | — | — | — | — | 5.07144E-06 | 2.15165E-05 |
| Thallium | Tl | — | — | — | 5.67778E-08 | 2.32496E-06 | 1.23268E-07 | 4.45133E-08 | — | — | — | — | 2.15718E-06 | 2.38635E-06 | 1.26522E-07 | 4.56885E-08 | — | — | — | — | 2.21414E-06 | 4.90829E-05 |
| Uranium | U | — | — | — | 1.71838E-07 | 3.48349E-06 | 7.72867E-07 | 5.58182E-09 | — | — | — | — | 2.70504E-06 | 3.70539E-06 | 8.22101E-07 | 5.9374E-09 | — | — | — | — | 2.87735E-06 | 0.000753262 |
| Zinc | Zn | — | — | — | 7.75544E-05 | 0.005548938 | 0.003568003 | 0.000174436 | — | — | — | 0.000807459 | 0.000999041 | 0.005110427 | 0.003845639 | 0.000188009 | — | — | — | — | 0.001076779 | 0.00681672 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations |
| **Media** | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — |
| | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.364245591 | 0.004451891 | — | — | — | 0.037476124 | 0.025497191 | 0.081060857 | 0.040264495 | 0.000492122 | — | — | — | 0.037485725 | 0.002818515 | 0.388015746 | 0.323892837 | 0.00395869 | — | — | — |
| Antimony | Sb | 3.46738E-05 | 3.46738E-07 | — | — | — | 0.000132068 | 1.21358E-05 | 0.007479237 | 0.00540233 | 5.40233E-05 | — | — | — | 0.000132068 | 0.001890815 | 0.007720159 | 0.005432339 | 5.43234E-05 | — | — | — |
| Arsenic | As | 2.15503E-05 | 7.31645E-07 | — | — | — | 0.000165639 | 4.19033E-05 | 0.019645829 | 0.006540499 | 0.000222054 | — | — | — | 0.000165639 | 0.012717637 | 0.020883766 | 0.006558537 | 0.000222666 | — | — | — |
| Cadmium | Cd | 5.47609E-06 | 1.94705E-07 | — | — | — | 7.58739E-06 | 3.06661E-06 | 0.004028244 | 0.002522263 | 8.96805E-05 | — | — | — | 3.83345E-06 | 0.001412467 | 0.004037029 | 0.002527031 | 8.985E-05 | — | — | — |
| Cobalt | Co | 5.35815E-05 | 1.1907E-06 | — | — | — | 9.08302E-05 | 0.000187535 | 0.055581463 | 0.012267682 | 0.000272615 | — | — | — | 0.000104281 | 0.042936885 | 0.055763683 | 0.012309377 | 0.000273542 | — | — | — |
| Copper | Cu | 0.000509794 | 1.98253E-05 | — | — | — | 0.000217492 | 8.92139E-05 | 0.646048616 | 0.532042455 | 0.02069054 | — | — | — | 0.000208191 | 0.09310743 | 0.646566159 | 0.532468806 | 0.02070712 | — | — | — |
| Cyanide | CN- | — | — | — | — | — | 0.000195952 | — | 0.000195959 | — | — | — | — | — | 0.000195959 | — | 0.000195959 | — | — | — | — | — |
| Lead | Pb | 0.000263629 | 7.1603E-07 | — | — | — | 0.000196008 | 0.00041009 | 0.058167887 | 0.022677 | 6.15919E-05 | — | — | — | 0.000153962 | 0.035275334 | 0.058769716 | 0.022908448 | 6.22205E-05 | — | — | — |
| Mercury | Hg | 6.10721E-06 | 7.46437E-08 | — | — | — | 2.33534E-06 | 4.27505E-07 | 0.002296068 | 0.00211915 | 2.59007E-05 | — | — | — | 2.67728E-06 | 0.00014834 | 0.002301194 | 0.002123886 | 2.59586E-05 | — | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | 2.33534E-06 | — | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 | — | 2.67754E-06 | — | — | — | — | — |
| Silver | Ag | 1.30408E-08 | 8.85489E-07 | — | — | — | 1.55465E-05 | 5.07144E-06 | 0.00053798 | 1.14121E-06 | 7.74894E-05 | — | — | — | 1.55465E-05 | 0.000443803 | 0.000543429 | 1.15311E-06 | 7.82976E-05 | — | — | — |
| Thallium | Tl | 1.26522E-07 | 4.56885E-08 | — | — | — | 4.66965E-05 | 2.21414E-06 | 0.001065258 | 5.40032E-05 | 1.95012E-05 | — | — | — | 4.66965E-05 | 0.000945057 | 0.001067521 | 5.41233E-05 | 1.95445E-05 | — | — | — |
| Uranium | U | 8.22101E-07 | 5.9374E-09 | — | — | — | 0.000749556 | 2.87735E-06 | 0.003183678 | 0.000540049 | 3.90035E-06 | — | — | — | 0.000749556 | 0.001890172 | 0.00318694 | 0.000540773 | 3.90558E-06 | — | — | — |
| Zinc | Zn | 0.003845639 | 0.000188009 | — | — | — | 0.001706294 | 0.001076779 | 1.208620535 | 0.908899259 | 0.044435075 | — | — | — | 0.000794408 | 0.254491793 | 1.21300699 | 0.912190282 | 0.044595969 | — | — | — |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Base |
| Phase | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Baseline | Baseline | Baseline |
| Media | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 |
| | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.037491721 | 0.022672499 | 0.431680399 | 0.364245591 | 0.004451891 | — | — | — | 0.037485725 | 0.025497191 | 0.431670797 | 0.364245591 | 0.004451891 | — | — | — | 0.037476124 | 0.025497191 | 0.037485725 | — | — |
| Antimony | Sb | 0.000332179 | 0.001901319 | 0.007523225 | 0.005434674 | 5.43467E-05 | — | — | — | 0.000132068 | 0.001902136 | 0.007523225 | 0.005434674 | 5.43467E-05 | — | — | — | 0.000132068 | 0.001902136 | 0.007476068 | 0.0054 | 0.000054 |
| Arsenic | As | 0.001349851 | 0.012752712 | 0.019704791 | 0.006560295 | 0.000222726 | — | — | — | 0.000165639 | 0.01275613 | 0.019704791 | 0.006560295 | 0.000222726 | — | — | — | 0.000165639 | 0.01275613 | 0.019640605 | 0.006538745 | 0.000221994 |
| Cadmium | Cd | 5.01061E-06 | 0.001415137 | 0.004036418 | 0.002527386 | 8.98626E-05 | — | — | — | 3.83345E-06 | 0.001415336 | 0.004040172 | 0.002527386 | 8.98626E-05 | — | — | — | 7.58739E-06 | 0.001415336 | 0.00402768 | 0.00252191 | 8.96679E-05 |
| Cobalt | Co | 9.79473E-05 | 0.043082818 | 0.055796924 | 0.012315327 | 0.000273674 | — | — | — | 0.000104281 | 0.043103643 | 0.055786666 | 0.012315327 | 0.000273674 | — | — | — | 9.40218E-05 | 0.043103643 | 0.055554617 | 0.012261745 | 0.000272483 |
| Copper | Cu | 0.000208191 | 0.093182041 | 0.646616877 | 0.532510588 | 0.020708745 | — | — | — | 0.000208191 | 0.093189353 | 0.646626177 | 0.532510588 | 0.020708745 | — | — | — | 0.000217492 | 0.093189353 | 0.645998044 | 0.532000794 | 0.02068892 |
| Cyanide | CN- | 0.000195959 | — | 0.000195959 | — | — | — | — | — | 0.000195959 | — | 0.000195952 | — | — | — | — | — | 0.000195952 | — | 0.000195959 | — | — |
| Lead | Pb | 0.000163684 | 0.035635364 | 0.058801205 | 0.022924557 | 6.22642E-05 | — | — | — | 0.000153962 | 0.035660422 | 0.058843251 | 0.022924557 | 6.22642E-05 | — | — | — | 0.000196008 | 0.035660422 | 0.05812677 | 0.022660928 | 6.15482E-05 |
| Mercury | Hg | 2.67754E-06 | 0.000148672 | 0.002301936 | 0.002124572 | 2.5967E-05 | — | — | — | 2.67728E-06 | 0.00014872 | 0.002301594 | 0.002124572 | 2.5967E-05 | — | — | — | 2.33534E-06 | 0.00014872 | 0.002295327 | 0.002118465 | 2.58923E-05 |
| Methyl-Mercury | Me-Hg | 2.67754E-06 | — | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 | — | 2.33534E-06 | — | — | — | — | — | 2.33534E-06 | — | 2.67728E-06 | — | — |
| Silver | Ag | 1.55465E-05 | 0.000448432 | 0.00054369 | 1.15368E-06 | 7.83363E-05 | — | — | — | 1.55465E-05 | 0.000448653 | 0.00054369 | 1.15368E-06 | 7.83363E-05 | — | — | — | 1.55465E-05 | 0.000448653 | 0.00053772 | 1.14064E-06 | 7.74508E-05 |
| Thallium | Tl | 4.66965E-05 | 0.000947157 | 0.001067583 | 5.41265E-05 | 1.95457E-05 | — | — | — | 4.66965E-05 | 0.000947214 | 0.001067583 | 5.41265E-05 | 1.95457E-05 | — | — | — | 4.66965E-05 | 0.000947214 | 0.001065197 | 0.000054 | 0.0000195 |
| Uranium | U | 0.000749556 | 0.001892705 | 0.003187162 | 0.000540822 | 3.90594E-06 | — | — | — | 0.000749556 | 0.001892877 | 0.003187162 | 0.000540822 | 3.90594E-06 | — | — | — | 0.000749556 | 0.001892877 | 0.003183456 | 0.00054 | 0.0000039 |
| Zinc | Zn | 0.000807459 | 0.255413279 | 1.213362886 | 0.912467918 | 0.044609543 | — | — | — | 0.000794408 | 0.255491017 | 1.214274772 | 0.912467918 | 0.044609543 | — | — | — | 0.001706294 | 0.255491017 | 1.20825246 | 0.908622279 | 0.044421534 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Base | Base | Base | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only |
| **Phase** | Baseline | Baseline | Baseline | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations |
| **Media** | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | — | — | 0.037485725 | — | 0.043575131 | 0.040264495 | 0.000492122 | — | — | — | — | 0.002818515 | 0.350524025 | 0.323892837 | 0.00395869 | — | — | — | — | 0.022672499 |
| Antimony | Sb | — | — | — | 0.000132068 | 0.00189 | 3.16857E-06 | 2.32983E-06 | 2.32983E-08 | — | — | — | — | 8.15441E-07 | 0.000376159 | 3.23386E-05 | 3.23386E-07 | — | — | — | 0.000332179 | 1.13185E-05 |
| Arsenic | As | — | — | — | 0.000165639 | 0.012714227 | 5.22368E-06 | 1.75386E-06 | 5.95445E-08 | — | — | — | — | 3.41028E-06 | 0.0014088 | 1.97922E-05 | 6.71958E-07 | — | — | — | 0.001349851 | 3.84849E-05 |
| Cadmium | Cd | — | — | — | 3.83345E-06 | 0.001412269 | 5.63961E-07 | 3.53457E-07 | 1.25674E-08 | — | — | — | — | 1.97936E-07 | 1.31826E-05 | 5.12172E-06 | 1.82106E-07 | — | — | — | 5.01061E-06 | 2.86816E-06 |
| Cobalt | Co | — | — | — | 0.000104281 | 0.042916108 | 2.68459E-05 | 5.93645E-06 | 1.31921E-07 | — | — | — | — | 2.07776E-05 | 0.0002154 | 4.76314E-05 | 1.05848E-06 | — | — | — | — | 0.00016671 |
| Copper | Cu | — | — | — | 0.000208191 | 0.093100139 | 5.05723E-05 | 4.16614E-05 | 1.62017E-06 | — | — | — | — | 7.29075E-06 | 0.000753641 | 0.000468012 | 1.82005E-05 | — | — | — | 0.000185526 | 8.19022E-05 |
| Cyanide | CN- | — | — | — | 0.000195959 | — | — | — | — | — | — | — | — | — | 0.000174896 | — | — | — | — | — | 0.000174896 | — |
| Lead | Pb | — | — | — | 0.000153962 | 0.035250332 | 4.11176E-05 | 1.60724E-05 | 4.36534E-08 | — | — | — | — | 2.50015E-05 | 0.000796908 | 0.00024752 | 6.72278E-07 | — | — | — | 0.000163684 | 0.000385032 |
| Mercury | Hg | — | — | — | 2.67728E-06 | 0.000148293 | 7.41269E-07 | 6.84951E-07 | 8.37162E-09 | — | — | — | — | 4.79466E-08 | 5.86634E-06 | 5.42064E-06 | 6.62523E-08 | — | — | — | — | 3.79445E-07 |
| Methyl-Mercury | Me-Hg | — | — | — | 2.67728E-06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Silver | Ag | — | — | — | 1.55465E-05 | 0.000443582 | 2.60145E-07 | 5.68262E-10 | 3.85857E-08 | — | — | — | — | 2.20991E-07 | 5.70923E-06 | 1.24713E-08 | 8.46815E-07 | — | — | — | — | 4.84994E-06 |
| Thallium | Tl | — | — | — | 4.66965E-05 | 0.000945 | 6.11938E-08 | 3.24444E-09 | 1.17161E-09 | — | — | — | — | 5.67778E-08 | 2.32496E-06 | 1.23268E-07 | 4.45133E-08 | — | — | — | — | 2.15718E-06 |
| Uranium | U | — | — | — | 0.000749556 | 0.00189 | 2.2129E-07 | 4.90967E-08 | 3.54587E-10 | — | — | — | — | 1.71838E-07 | 3.48349E-06 | 7.72867E-07 | 5.58182E-09 | — | — | — | — | 2.70504E-06 |
| Zinc | Zn | — | — | — | 0.000794408 | 0.254414238 | 0.000368076 | 0.00027698 | 1.35412E-05 | — | — | — | — | 7.75544E-05 | 0.005548938 | 0.003568003 | 0.000174436 | — | — | — | 0.000807459 | 0.000999041 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project |
| **Phase** | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction |
| **Media** | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — |
| | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — |

| Parameter | Symbol | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.394194673 | 0.364245591 | 0.004451891 | — | — | — | — | 0.025497191 | 0.431670797 | 0.364245591 | 0.004451891 | — | — | — | 0.037476124 | 0.025497191 | 0.081060857 | 0.040264495 | 0.000492122 | — | — |
| Antimony | Sb | 4.71564E-05 | 3.46738E-05 | 3.46738E-07 | — | — | — | — | 1.21358E-05 | 0.000179225 | 3.46738E-05 | 3.46738E-07 | — | — | — | 0.000132068 | 1.21358E-05 | 0.007479237 | 0.00540233 | 5.40233E-05 | — | — |
| Arsenic | As | 6.41852E-05 | 2.15503E-05 | 7.31645E-07 | — | — | — | — | 4.19033E-05 | 0.000229824 | 2.15503E-05 | 7.31645E-07 | — | — | — | 0.000165639 | 4.19033E-05 | 0.019645829 | 0.006540499 | 0.000222054 | — | — |
| Cadmium | Cd | 8.7374E-06 | 5.47609E-06 | 1.94705E-07 | — | — | — | — | 3.06661E-06 | 1.63248E-05 | 5.47609E-06 | 1.94705E-07 | — | — | — | 7.58739E-06 | 3.06661E-06 | 0.004028244 | 0.002522263 | 8.96805E-05 | — | — |
| Cobalt | Co | 0.000242308 | 5.35815E-05 | 1.1907E-06 | — | — | — | — | 0.000187535 | 0.000333138 | 5.35815E-05 | 1.1907E-06 | — | — | — | 9.08302E-05 | 0.000187535 | 0.055581463 | 0.012267682 | 0.000272615 | — | — |
| Copper | Cu | 0.000618833 | 0.000509794 | 1.98253E-05 | — | — | — | — | 8.92139E-05 | 0.000836325 | 0.000509794 | 1.98253E-05 | — | — | — | 0.000217492 | 8.92139E-05 | 0.646048616 | 0.532042455 | 0.02069054 | — | — |
| Cyanide | CN- | — | — | — | — | — | — | — | — | 0.000195952 | — | — | — | — | — | 0.000195952 | — | 0.000195959 | — | — | — | — |
| Lead | Pb | 0.000674435 | 0.000263629 | 7.1603E-07 | — | — | — | — | 0.00041009 | 0.000870443 | 0.000263629 | 7.1603E-07 | — | — | — | 0.000196008 | 0.00041009 | 0.058167887 | 0.022677 | 6.15919E-05 | — | — |
| Mercury | Hg | 6.60936E-06 | 6.10721E-06 | 7.46437E-08 | — | — | — | — | 4.27505E-07 | 8.9447E-06 | 6.10721E-06 | 7.46437E-08 | — | — | — | 2.33534E-06 | 4.27505E-07 | 0.002296068 | 0.00211915 | 2.59007E-05 | — | — |
| Methyl-Mercury | Me-Hg | — | — | — | — | — | — | — | — | 2.33534E-06 | — | — | — | — | — | 2.33534E-06 | — | 2.67728E-06 | — | — | — | — |
| Silver | Ag | 5.96997E-06 | 1.30408E-08 | 8.85489E-07 | — | — | — | — | 5.07144E-06 | 2.15165E-05 | 1.30408E-08 | 8.85489E-07 | — | — | — | 1.55465E-05 | 5.07144E-06 | 0.00053798 | 1.14121E-06 | 7.74894E-05 | — | — |
| Thallium | Tl | 2.38635E-06 | 1.26522E-07 | 4.56885E-08 | — | — | — | — | 2.21414E-06 | 4.90829E-05 | 1.26522E-07 | 4.56885E-08 | — | — | — | 4.66965E-05 | 2.21414E-06 | 0.001065258 | 5.40032E-05 | 1.95012E-05 | — | — |
| Uranium | U | 3.70539E-06 | 8.22101E-07 | 5.9374E-09 | — | — | — | — | 2.87735E-06 | 0.000753262 | 8.22101E-07 | 5.9374E-09 | — | — | — | 0.000749556 | 2.87735E-06 | 0.003183678 | 0.000540049 | 3.90035E-06 | — | — |
| Zinc | Zn | 0.005110427 | 0.003845639 | 0.000188009 | — | — | — | — | 0.001076779 | 0.00681672 | 0.003845639 | 0.000188009 | — | — | — | 0.001706294 | 0.001076779 | 1.208620535 | 0.908899259 | 0.044435075 | — | — |

**Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project | Project |
| **Phase** | Site Preparation and Construction | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Operations | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Closure | Post-closure | Post-closure |
| **Media** | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 | Plant_2 | — | — | — | media_Water (dry) | media_Soil | — | Plant_1 |
| | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage | berries | — | — | — | 0 | 0 | — | forage |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) | Total Dose to Snowshoe Hare (mg/kg/d) | Dose to Snowshoe Hare from the consumption of Plant_1 (mg/kg/d) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | — | 0.037485725 | 0.002818515 | 0.388015746 | 0.323892837 | 0.00395869 | — | — | — | 0.037491721 | 0.022672499 | 0.431680399 | 0.364245591 | 0.004451891 | — | — | — | 0.037485725 | 0.025497191 | 0.431670797 | 0.364245591 |
| Antimony | Sb | — | 0.000132068 | 0.001890815 | 0.007720159 | 0.005432339 | 5.43234E-05 | — | — | — | 0.000332179 | 0.001901319 | 0.007523225 | 0.005434674 | 5.43467E-05 | — | — | — | 0.000132068 | 0.001902136 | 0.007523225 | 0.005434674 |
| Arsenic | As | — | 0.000165639 | 0.012717637 | 0.020883766 | 0.006558537 | 0.000222666 | — | — | — | 0.001349851 | 0.012752712 | 0.019704791 | 0.006560295 | 0.000222726 | — | — | — | 0.000165639 | 0.01275613 | 0.019704791 | 0.006560295 |
| Cadmium | Cd | — | 3.83345E-06 | 0.001412467 | 0.004037029 | 0.002527031 | 8.985E-05 | — | — | — | 5.01061E-06 | 0.001415137 | 0.004036418 | 0.002527386 | 8.98626E-05 | — | — | — | 3.83345E-06 | 0.001415336 | 0.004040172 | 0.002527386 |
| Cobalt | Co | — | 0.000104281 | 0.042936885 | 0.055763683 | 0.012309377 | 0.000273542 | — | — | — | 9.79473E-05 | 0.043082818 | 0.055796924 | 0.012315327 | 0.000273674 | — | — | — | 0.000104281 | 0.043103643 | 0.055786666 | 0.012315327 |
| Copper | Cu | — | 0.000208191 | 0.09310743 | 0.646566159 | 0.532468806 | 0.02070712 | — | — | — | 0.000208191 | 0.093182041 | 0.646616877 | 0.532510588 | 0.020708745 | — | — | — | 0.000208191 | 0.093189353 | 0.646626177 | 0.532510588 |
| Cyanide | CN- | — | 0.000195959 | — | 0.000195959 | — | — | — | — | — | 0.000195959 | — | 0.000195959 | — | — | — | — | — | 0.000195959 | — | 0.000195952 | — |
| Lead | Pb | — | 0.000153962 | 0.035275334 | 0.058769716 | 0.022908448 | 6.22205E-05 | — | — | — | 0.000163684 | 0.035635364 | 0.058801205 | 0.022924557 | 6.22642E-05 | — | — | — | 0.000153962 | 0.035660422 | 0.058843251 | 0.022924557 |
| Mercury | Hg | — | 2.67728E-06 | 0.00014834 | 0.002301194 | 0.002123886 | 2.59586E-05 | — | — | — | 2.67754E-06 | 0.000148672 | 0.002301936 | 0.002124572 | 2.5967E-05 | — | — | — | 2.67728E-06 | 0.00014872 | 0.002301594 | 0.002124572 |
| Methyl-Mercury | Me-Hg | — | 2.67728E-06 | — | 2.67754E-06 | — | — | — | — | — | 2.67754E-06 | — | 2.67728E-06 | — | — | — | — | — | 2.67728E-06 | — | 2.33534E-06 | — |
| Silver | Ag | — | 1.55465E-05 | 0.000443803 | 0.000543429 | 1.15311E-06 | 7.82976E-05 | — | — | — | 1.55465E-05 | 0.000448432 | 0.00054369 | 1.15368E-06 | 7.83363E-05 | — | — | — | 1.55465E-05 | 0.000448653 | 0.00054369 | 1.15368E-06 |
| Thallium | Tl | — | 4.66965E-05 | 0.000945057 | 0.001067521 | 5.41233E-05 | 1.95445E-05 | — | — | — | 4.66965E-05 | 0.000947157 | 0.001067583 | 5.41265E-05 | 1.95457E-05 | — | — | — | 4.66965E-05 | 0.000947214 | 0.001067583 | 5.41265E-05 |
| Uranium | U | — | 0.000749556 | 0.001890172 | 0.00318694 | 0.000540773 | 3.90558E-06 | — | — | — | 0.000749556 | 0.001892705 | 0.003187162 | 0.000540822 | 3.90594E-06 | — | — | — | 0.000749556 | 0.001892877 | 0.003187162 | 0.000540822 |
| Zinc | Zn | — | 0.000794408 | 0.254491793 | 1.21300699 | 0.912190282 | 0.044595969 | — | — | — | 0.000807459 | 0.255413279 | 1.213362886 | 0.912467918 | 0.044609543 | — | — | — | 0.000794408 | 0.255491017 | 1.214274772 | 0.912467918 |

## Table VI-14A Estimated Ecological Exposure Dose: Snowshoe Hare

| | | | | | | |
|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project | Project | Project | Project | Project | Project |
| **Phase** | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure | Post-closure |
| **Media** | Plant_2 | — | — | — | media_Water (dry) | media_Soil |
| | berries | — | — | — | 0 | 0 |

| Parameter | Symbol | Dose to Snowshoe Hare from the consumption of Plant_2 (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of — (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Water (dry) (mg/kg/d) | Dose to Snowshoe Hare from the consumption of media_Soil (mg/kg/d) |
|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.004451891 | — | — | — | 0.037476124 | 0.025497191 |
| Antimony | Sb | 5.43467E-05 | — | — | — | 0.000132068 | 0.001902136 |
| Arsenic | As | 0.000222726 | — | — | — | 0.000165639 | 0.01275613 |
| Cadmium | Cd | 8.98626E-05 | — | — | — | 7.58739E-06 | 0.001415336 |
| Cobalt | Co | 0.000273674 | — | — | — | 9.40218E-05 | 0.043103643 |
| Copper | Cu | 0.020708745 | — | — | — | 0.000217492 | 0.093189353 |
| Cyanide | CN- | — | — | — | — | 0.000195952 | — |
| Lead | Pb | 6.22642E-05 | — | — | — | 0.000196008 | 0.035660422 |
| Mercury | Hg | 2.5967E-05 | — | — | — | 2.33534E-06 | 0.00014872 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 2.33534E-06 | — |
| Silver | Ag | 7.83363E-05 | — | — | — | 1.55465E-05 | 0.000448653 |
| Thallium | Tl | 1.95457E-05 | — | — | — | 4.66965E-05 | 0.000947214 |
| Uranium | U | 3.90594E-06 | — | — | — | 0.000749556 | 0.001892877 |
| Zinc | Zn | 0.044609543 | — | — | — | 0.001706294 | 0.255491017 |

## Table VI-14B Estimated Ecological Risk: Snowshoe Hare

| Study Area | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 1 | Location 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Base |
| Phase | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline |

| Parameter | Symbol | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.019422656 | 0.001942266 | 498.2582624 | 49.82582624 | 498.2638413 | 49.82638413 | 0.005578873 | 0.000557887 | 498.2582624 | 49.82582624 | 4.029937342 | 0.402993734 | 498.277685 | 49.8277685 | 498.2638413 | 49.82638413 | 498.277685 | 49.8277685 | 4.029937342 | 0.402993734 | 0.019422656 |
| Antimony | Sb | 0.059808546 | 0.005980855 | 0.551656024 | 0.055165602 | 0.552521731 | 0.055252173 | 0.000865707 | 8.65707E-05 | 0.551656024 | 0.055165602 | 0.007755743 | 0.000775574 | 0.55271257 | 0.055271257 | 0.552521731 | 0.055252173 | 0.55271257 | 0.055271257 | 0.066507743 | 0.006650774 | 0.059808546 |
| Arsenic | As | 0.15108158 | 0.015108158 | 0.866999977 | 0.086699998 | 0.874491668 | 0.087449167 | 0.007491691 | 0.000749169 | 0.866999977 | 0.086699998 | 0.010263738 | 0.001026374 | 0.868274123 | 0.086827412 | 0.874491668 | 0.087449167 | 0.868274123 | 0.086827412 | 0.160071173 | 0.016007117 | 0.15108158 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.007579075 | 0.006313025 | 0.079827541 | 0.066492713 | 0.079857067 | 0.066517307 | 2.95261E-05 | 2.45939E-05 | 0.079827541 | 0.066492713 | 0.000658643 | 0.00054862 | 0.079841767 | 0.066504563 | 0.079857067 | 0.066517307 | 0.079841767 | 0.066504563 | 0.008223492 | 0.006849795 | 0.007579075 |
| Copper | Cu | 0.055213508 | 0.042668299 | 0.088109013 | 0.068089528 | 0.088192254 | 0.068153855 | 8.3241E-05 | 6.43276E-05 | 0.088109013 | 0.068089528 | 0.001048274 | 0.000810093 | 0.088126807 | 0.068103279 | 0.088192254 | 0.068153855 | 0.088126807 | 0.068103279 | 0.056243988 | 0.043464641 | 0.055213508 |
| Cyanide | CN- | 2.83999E-06 | 2.83999E-06 | — | — | 0.000784154 | 0.000784154 | 0.000784154 | 0.000784154 | — | — | 3.92077E-06 | 3.92077E-06 | 2.83999E-06 | 2.83999E-06 | 0.000784154 | 0.000784154 | 2.83999E-06 | 2.83999E-06 | 3.92077E-06 | 3.92077E-06 | 2.83999E-06 |
| Lead | Pb | 0.007265846 | 0.000726585 | 0.112469633 | 0.011246963 | 0.113024226 | 0.011302423 | 0.000554593 | 5.54593E-05 | 0.112469633 | 0.011246963 | 0.001647221 | 0.000164722 | 0.112488878 | 0.011248888 | 0.113024226 | 0.011302423 | 0.112488878 | 0.011248888 | 0.008893822 | 0.000889382 | 0.007265846 |
| Mercury | Hg | 0.002295327 | 0.002295327 | 0.016056307 | 0.016056307 | 0.016153699 | 0.016153699 | 9.7392E-05 | 9.7392E-05 | 0.016056307 | 0.016056307 | 0.000141287 | 0.000141287 | 0.016058984 | 0.016058984 | 0.016153699 | 0.016153699 | 0.016058984 | 0.016058984 | 0.002433937 | 0.002433937 | 0.002295327 |
| Methyl-Mercury | Me-Hg | 8.3665E-05 | 1.6733E-05 | — | — | 0.003043499 | 0.0006087 | 0.003043499 | 0.0006087 | — | — | 0.000338167 | 6.76333E-05 | 8.3665E-05 | 1.6733E-05 | 0.003043499 | 0.0006087 | 8.3665E-05 | 1.6733E-05 | 0.000338167 | 6.76333E-05 | 8.3665E-05 |
| Silver | Ag | 8.93222E-05 | 8.93222E-06 | 0.000942214 | 9.42214E-05 | 0.000942663 | 9.42663E-05 | 4.49391E-07 | 4.49391E-08 | 0.000942214 | 9.42214E-05 | 1.96632E-05 | 1.96632E-06 | 0.000944796 | 9.44796E-05 | 0.000942663 | 9.42663E-05 | 0.000944796 | 9.44796E-05 | 0.000106403 | 1.06403E-05 | 8.93222E-05 |
| Thallium | Tl | 0.143945475 | 0.014394547 | 0.164339858 | 0.016433986 | 4.858457978 | 0.485845798 | 4.69411812 | 0.469411812 | 0.164339858 | 0.016433986 | 0.008231219 | 0.000823122 | 0.170650198 | 0.01706502 | 4.858457978 | 0.485845798 | 0.170650198 | 0.01706502 | 0.145866354 | 0.014586635 | 0.143945475 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.007551578 | 0.003775789 | 0.049772606 | 0.024886303 | 0.049786133 | 0.024893066 | 1.35267E-05 | 6.76333E-06 | 0.049772606 | 0.024886303 | 0.000625564 | 0.000312782 | 0.049777571 | 0.024888786 | 0.049786133 | 0.024893066 | 0.049777571 | 0.024888786 | 0.008172177 | 0.004086088 | 0.007551578 |

## Table VI-14B Estimated Ecological Risk: Snowshoe Hare

| Study Area | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 2 | Location 3 | Location 3 | Location 3 | Location 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scenario | Base | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project | Project | Project | Base | Base | Project Only | Project Only |
| Phase | Baseline | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Baseline | Baseline | Site Preparation and Construction | Site Preparation and Construction |

| Parameter | Symbol | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.001942266 | 0.022577788 | 0.002257779 | 0.181618666 | 0.018161867 | 0.204245945 | 0.020424594 | 0.223663625 | 0.022366363 | 0.042000444 | 0.004200044 | 0.201044428 | 0.020104443 | 0.2236686 | 0.02236686 | 0.223663625 | 0.022366363 | 0.019422656 | 0.001942266 | 0.022577788 | 0.002257779 |
| Antimony | Sb | 0.005980855 | 2.53486E-05 | 2.53486E-06 | 0.003009274 | 0.000300927 | 0.000377251 | 3.77251E-05 | 0.001433797 | 0.00014338 | 0.059833895 | 0.005983389 | 0.061761274 | 0.006176127 | 0.060185797 | 0.00601858 | 0.060185797 | 0.00601858 | 0.059808546 | 0.005980855 | 2.53486E-05 | 2.53486E-06 |
| Arsenic | As | 0.015108158 | 4.01821E-05 | 4.01821E-06 | 0.010836923 | 0.001083692 | 0.000493732 | 4.93732E-05 | 0.001767878 | 0.000176788 | 0.151121762 | 0.015112176 | 0.160644357 | 0.016064436 | 0.151575313 | 0.015157531 | 0.151575313 | 0.015157531 | 0.15108158 | 0.015108158 | 4.01821E-05 | 4.01821E-06 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 0.006313025 | 3.66247E-06 | 3.05067E-06 | 2.93861E-05 | 2.44773E-05 | 3.3057E-05 | 2.7535E-05 | 4.54485E-05 | 3.78566E-05 | 0.007582737 | 0.006316075 | 0.007607597 | 0.006336782 | 0.007612132 | 0.00634056 | 0.007610732 | 0.006339394 | 0.007579075 | 0.006313025 | 3.66247E-06 | 3.05067E-06 |
| Copper | Cu | 0.042668299 | 4.32242E-06 | 3.34031E-06 | 6.44137E-05 | 4.97781E-05 | 5.28917E-05 | 4.08741E-05 | 7.14808E-05 | 5.52394E-05 | 0.05521783 | 0.042671639 | 0.055262065 | 0.042705823 | 0.0552664 | 0.042709173 | 0.055267195 | 0.042709787 | 0.055213508 | 0.042668299 | 4.32242E-06 | 3.34031E-06 |
| Cyanide | CN- | 2.83999E-06 | — | — | 2.53472E-06 | 2.53472E-06 | — | — | 2.83989E-06 | 2.83989E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83989E-06 | 2.83989E-06 | 2.83999E-06 | 2.83999E-06 | — | — |
| Lead | Pb | 0.000726585 | 5.1397E-06 | 5.1397E-07 | 9.96135E-05 | 9.96135E-06 | 8.43044E-05 | 8.43044E-06 | 0.000108805 | 1.08805E-05 | 0.007270986 | 0.000727099 | 0.007346215 | 0.000734621 | 0.007350151 | 0.000735015 | 0.007355406 | 0.000735541 | 0.007265846 | 0.000726585 | 5.1397E-06 | 5.1397E-07 |
| Mercury | Hg | 0.002295327 | 7.41269E-07 | 7.41269E-07 | 5.86634E-06 | 5.86634E-06 | 6.60936E-06 | 6.60936E-06 | 8.9447E-06 | 8.9447E-06 | 0.002296068 | 0.002296068 | 0.002301194 | 0.002301194 | 0.002301936 | 0.002301936 | 0.002301594 | 0.002301594 | 0.002295327 | 0.002295327 | 7.41269E-07 | 7.41269E-07 |
| Methyl-Mercury | Me-Hg | 1.6733E-05 | — | — | — | — | — | — | 7.29794E-05 | 1.45959E-05 | 8.3665E-05 | 1.6733E-05 | 8.36732E-05 | 1.67346E-05 | 8.3665E-05 | 1.6733E-05 | 7.29794E-05 | 1.45959E-05 | 8.3665E-05 | 1.6733E-05 | — | — |
| Silver | Ag | 8.93222E-06 | 4.32134E-08 | 4.32134E-09 | 9.48377E-07 | 9.48377E-08 | 9.91689E-07 | 9.91689E-08 | 3.57417E-06 | 3.57417E-07 | 8.93654E-05 | 8.93654E-06 | 9.02706E-05 | 9.02706E-06 | 9.03139E-05 | 9.03139E-06 | 9.03139E-05 | 9.03139E-06 | 8.93222E-05 | 8.93222E-06 | 4.32134E-08 | 4.32134E-09 |
| Thallium | Tl | 0.014394547 | 8.26944E-06 | 8.26944E-07 | 0.000314184 | 3.14184E-05 | 0.000322479 | 3.22479E-05 | 0.006632819 | 0.000663282 | 0.143953744 | 0.014395374 | 0.144259659 | 0.014425966 | 0.144267954 | 0.014426795 | 0.144267954 | 0.014426795 | 0.143945475 | 0.014394547 | 8.26944E-06 | 8.26944E-07 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 0.003775789 | 2.30047E-06 | 1.15024E-06 | 3.46809E-05 | 1.73404E-05 | 3.19402E-05 | 1.59701E-05 | 4.26045E-05 | 2.13023E-05 | 0.007553878 | 0.003776939 | 0.007581294 | 0.003790647 | 0.007583518 | 0.003791759 | 0.007589217 | 0.003794609 | 0.007551578 | 0.003775789 | 2.30047E-06 | 1.15024E-06 |

## Table VI-14B Estimated Ecological Risk: Snowshoe Hare

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Study Area** | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 | Location 3 |
| **Scenario** | Project Only | Project Only | Project Only | Project Only | Project Only | Project Only | Project | Project | Project | Project | Project | Project |
| **Phase** | Operations | Operations | Closure | Closure | Post-closure | Post-closure | Site Preparation and Construction | Site Preparation and Construction | Operations | Operations | Closure | Closure |

| Parameter | Symbol | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) | Risk to Snowshoe Hare (NOAELm) | Risk to Snowshoe Hare (LOAELm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | Al | 0.181618666 | 0.018161867 | 0.204245945 | 0.020424594 | 0.223663625 | 0.022366363 | 0.042000444 | 0.004200044 | 0.201044428 | 0.020104443 | 0.2236686 | 0.02236686 |
| Antimony | Sb | 0.003009274 | 0.000300927 | 0.000377251 | 3.77251E-05 | 0.001433797 | 0.00014338 | 0.059833895 | 0.005983389 | 0.061761274 | 0.006176127 | 0.060185797 | 0.00601858 |
| Arsenic | As | 0.010836923 | 0.001083692 | 0.000493732 | 4.93732E-05 | 0.001767878 | 0.000176788 | 0.151121762 | 0.015112176 | 0.160644357 | 0.016064436 | 0.151575313 | 0.015157531 |
| Cadmium | Cd | — | — | — | — | — | — | — | — | — | — | — | — |
| Cobalt | Co | 2.93861E-05 | 2.44773E-05 | 3.3057E-05 | 2.7535E-05 | 4.54485E-05 | 3.78566E-05 | 0.007582737 | 0.006316075 | 0.007607597 | 0.006336782 | 0.007612132 | 0.00634056 |
| Copper | Cu | 6.44137E-05 | 4.97781E-05 | 5.28917E-05 | 4.08741E-05 | 7.14808E-05 | 5.52394E-05 | 0.05521783 | 0.042671639 | 0.055262065 | 0.042705823 | 0.0552664 | 0.042709173 |
| Cyanide | CN- | 2.53472E-06 | 2.53472E-06 | — | — | 2.83989E-06 | 2.83989E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 | 2.83999E-06 |
| Lead | Pb | 9.96135E-05 | 9.96135E-06 | 8.43044E-05 | 8.43044E-06 | 0.000108805 | 1.08805E-05 | 0.007270986 | 0.000727099 | 0.007346215 | 0.000734621 | 0.007350151 | 0.000735015 |
| Mercury | Hg | 5.86634E-06 | 5.86634E-06 | 6.60936E-06 | 6.60936E-06 | 8.9447E-06 | 8.9447E-06 | 0.002296068 | 0.002296068 | 0.002301194 | 0.002301194 | 0.002301936 | 0.002301936 |
| Methyl-Mercury | Me-Hg | — | — | — | — | 7.29794E-05 | 1.45959E-05 | 8.3665E-05 | 1.6733E-05 | 8.36732E-05 | 1.67346E-05 | 8.3665E-05 | 1.6733E-05 |
| Silver | Ag | 9.48377E-07 | 9.48377E-08 | 9.91689E-07 | 9.91689E-08 | 3.57417E-06 | 3.57417E-07 | 8.93654E-05 | 8.93654E-06 | 9.02706E-05 | 9.02706E-06 | 9.03139E-05 | 9.03139E-06 |
| Thallium | Tl | 0.000314184 | 3.14184E-05 | 0.000322479 | 3.22479E-05 | 0.006632819 | 0.000663282 | 0.143953744 | 0.014395374 | 0.144259659 | 0.014425966 | 0.144267954 | 0.014426795 |
| Uranium | U | — | — | — | — | — | — | — | — | — | — | — | — |
| Zinc | Zn | 3.46809E-05 | 1.73404E-05 | 3.19402E-05 | 1.59701E-05 | 4.26045E-05 | 2.13023E-05 | 0.007553878 | 0.003776939 | 0.007581294 | 0.003790647 | 0.007583518 | 0.003791759 |