13.0 ENVIRONMENTAL MONITORING PROGRAM

13.1 BACKGROUND

The environmental management plan (EMP) and its associated monitoring are designed around the central principles stated within the Company's core environmental policy:

- Manage our operations to minimize or eliminate impacts on the environment through use of best management practices and appropriate application of technology;
- Adopt and promote policies specific to protecting the environment;
- Implement measures to ensure the efficient use of resources, energy and materials to minimize environmental impacts through all phases of the operation;
- Ensure compliance with all environmental legislation and regulations;
- Set objectives and put processes in place to continually improve our environmental performance; and
- Curtail operation if necessary to prevent or resolve environmental non-compliance conditions.

Monitoring details will be developed in consultation with Federal and Provincial governments, First Nation communities, and public stakeholders. The EMP and its monitoring plans apply to the construction, operation, closure, and post-closure phases of the Project. Preliminary details consistent with the framework presented in Section 12 are presented below.

13.2 AIR QUALITY

13.2.1 Objectives

Current modelling predicts that with appropriate mitigation O.Reg 419/05 point of impingement criteria will be met at the property boundary. Due to residents being in close proximity there is concern that air quality may be adversely impacted due to Project development and, therefore, could have an impact to both human health and the environment.

The Provincial government (Ministry of Environment and Climate Change [MOECC]) is expected to be the responsible authority to designated air quality monitoring requirements. As defined within the Environmental Compliance Approval (ECA) MOECC will designate the following except where defined differently:

- Monitor visible emissions and pertinent equipment operation details to show that equipment and operations are performing consistent with environmental assessment (EA) predictions, and that emissions are as predicted within the EA report.
- Determine significant changes to air quality that results from the Project, and provide data that can be used to account for any unanticipated environmental effects.

13.2.2 Monitoring Methods

All point sources on the Project site will be managed as per the stipulations in the applicable Provincial ECA as designated by MOECC.

Dust sources on-site (roads, stockpiles, and open pit operations) will be assessed to determine the suitability and effectiveness of dust control practices on-site by dust fall jars, and high volume samplers for $PM_{2.5}$ and total particulates as well as plume assessment if required. Select filtered samples will be assessed for metals as designated within O.Reg 419/05. Monitoring stations will be placed based on predicted contaminates of concerns, and with consultation with government regulators, and subject to location specific constraints. Equipment siting,

operations, auditing, and reporting will meet all MOECC requirements. Monitoring will be compared with predictions presented within Appendix J, EA report, and with applicable O. Reg. 419/05 criteria.

13.2.3 Progressive Management

Dust control measures will be progressive in nature with adjustment based on localized environmental conditions. Mitigation measures such as water spraying (with or without additives) will be conducted in these select periods. Any additional dust management or air quality controls (as described in Section 3.15) will be considered if required to meet regulatory needs.

13.2.4 Reporting

All reporting and EMP design is subject to approval by Provincial and Federal governments. Monitoring results will be reported to the responsible authorities though all phases of the Project.

13.3 SOUND AND VIBRATION

13.3.1 Objectives

Current modelling predicts that with appropriate mitigation MOECC criteria for sound and vibration will be met at the property boundary. Due to residents being in close proximity there is concern that sound and vibration have the potential to disturb adjacent residents, as well as wildlife species. Operational sound monitoring is required to address potential resident sound complaints. Vibration monitoring may be conducted though operational phase of Project development.

The MOECC is expected to be the responsible authority to designated noise and vibration monitoring requirements. As defined within the ECA, MOECC will designate the following except where defined differently:

- Monitor and record sound levels at selected nearest, off property receptors to show that they are consistent with EA report and ECA predictions, and MOECC guidelines; and
- Determine the changes to the sound environment that result from the Project and provide data that can be used, if required, to account for any unanticipated effects.

13.3.2 Monitoring Methods

Treasury plans to measure sound levels at (or near) residences positioned around the Project, subject to consultation and support from area residents and regulatory agencies. These locations will be determined with additional consultation with regulatory authorities, First Nations, and public stakeholders. Dedicated remote monitoring stations may be used to provide real time access to sound levels. All systems will conform to regulatory requirements (MOECC NPC-103). All monitoring data will be stored for analysis, processing and comparison to EA report, ECA requirements, and MOECC sound guidelines.

Vibration monitoring is not proposed at this time but will be considered with additional consultation with government regulators, First Nations, and public stakeholders. It is anticipated the Treasury will deploy monitoring equipment in similar proximity to sound monitors. Vibration monitoring will conform to regulatory needs (NPC-119). All monitoring data will be stored for analysis, processing and comparison to EA report, ECA requirements, and MOECC vibration guidelines.

13.3.3 Progressive Management

Sound control mitigation measures proposed in the design of the Project are outlined in Section 3.15. Additional controls may be required to control sound levels beyond those described if required to meet MOECC guidelines. All sound control measures will be progressive in nature and subject to review.

13.3.4 Reporting

Monitoring requirements are subject to ECA and EMP approval by Federal and Provincial governments. Monitoring results will be provided to the appropriate bodies though all phases of Project. Additional reporting as per Provincial regulatory needs will be provided to MOECC. Public stakeholder concern will be addressed and reported to the public upon verification of dataset.

13.4 SURFACE WATER AND AQUATICS

13.4.1 Objectives

Surface water and aquatic effect have been identified as a primary concern from government, First Nation, and public stakeholders associated with the Project. As Section 6 and the EA report describe, it was concluded that significant effects to water bodies are not anticipated.

Effluent and water quality monitoring requirements are expected to be included within Provincial approval issued by MOECC pursuant to the *Ontario Water Resources Act*, and are also governed by the Metal Mining Effluent Regulations (MMER). All terms and conditions of Provincial approvals including monitoring methods, reporting and remedial actions will be determined by MOECC, with consideration to other regulatory authorities. The objectives the EMP and surface water monitoring are to:

- Monitor the ability of water treatment and management facilities to produce effluents and runoff which meet Provincial and Federal requirements;
- Determine and confirm anticipated effects (if any) of effluent discharges and runoff on the water quality, flow, and biota of Blackwater Creek, Hoffstroms Bay Creek, Wabigoon Lake, and Thunder Lake, and assess whether additional mitigation measures may be required as part of adaptive management; and
- Assess the success of fish habitat mitigation measures to determine if any additional works are necessary.

13.4.2 Monitoring Methods

The following surface water and aquatics monitoring is proposed:

- Collect and analyze samples and measure rates of flow (as appropriate) from site discharges, and runoff and seepage collection facilities though operations. Locations will be determined though consultations with regulators once final locations are determined and detailed engineering secured;
- For each location selected where there is a discharge to a receiver (Blackwater Creek), monitor the quality of waters upstream and downstream of discharge and runoff/seepage releases at proposed monitoring locations;
- Monitor flows on-site commencing as soon as construction is completed on Blackwater Creek diversion and TSF; and
- Carry out EEM in accordance with the Metal Mining Guidance Document for Aquatic Environmental Effects Monitoring to assess the character and quality of aquatic resources.

13.4.3 Progressive Management

Monitoring results will be reported as per the reporting mechanisms below. Should conditions occur that may require immediate action, such as where there is evidence of negative impact on fish, fish habitat, surface water quality, surface water quantity, Treasury will report such conditions directly to the applicable government body, and propose reasonable measures to limit contaminant of concern, mitigate the direct cause of the concern, and review internal procedures to prevent future negative effects.

13.4.4 Reporting

Subject to acceptance of the EMP by Federal and Provincial governments, monitoring results will be provided to the parties of the EMP annually during the construction, operation and closure phases of the Project. Additional reporting need will be prescribed in Provincial and Federal environmental approvals.

13.5 GEOCHEMISTRY

13.5.1 Objectives

Baseline investigations have concluded that ore, tailings, and mine rock are expected to be potentially acid generating (PAG) which poses concern for effluent and receiver quality. PAG rock is expected to take several decades to produce any acid rock drainage (ARD) give the mitigation proposed on the Project (Section 3.15).

The objectives of the geochemical monitoring program will be to:

- Confirm geochemical model predictions regarding the onset of acidic conditions and the potential release of metals; and
- Confirm effectiveness of proposed mitigation strategies.

13.5.2 Monitoring Methods

The direct release of geochemical oxidation products (low grade ore, mine rock, tailings) will be monitored through the collection of discharge, and runoff and seepage. Data analysis will include long term tracking of seasonal and annual trends, together with applicable climate and hydrological data necessary to calculate trends in loading criteria.

In addition to the sampling described above, Treasury will carry out the following geochemical programs:

- Collection and analysis of selected blast hole drill cuttings for analysis of total inorganic carbon, and total sulphur (means of separating PAG and potential non-acid generating [NAG] material) for optimal management of PAG mine rock;
- Acid-base accounting (ABA) static testing and metals analysis on selected blast hole drill cuttings; and
- Collection and analysis of mill composite tailings samples, for ABA static testing and metals analysis.

13.5.3 Progressive Management

Adaptive management measures may be require to responds to developing trends in Project site effluent quality, or to unanticipated variations in geochemical oxidation rates. In addition, if planned mitigation measures (Section 3.15) appear not to meet their intended purpose, Treasury will consider either changes to site operations or implementation of additional mitigation measures.

13.5.4 Reporting

Subject to acceptance of the EMP by Federal and Provincial governments, monitoring results will be provided to the parties of the EMP annually during the construction, operation and closure phases of the Project.

Additional reporting need will be prescribed in Provincial and Federal environmental approvals.

13.6 GROUNDWATER

The proposed groundwater monitoring program is designed to confirm if actual drawdown and changes in groundwater quality follow the predicted pattern, and provide sufficient time for corrective action if necessary. The results of the groundwater monitoring program will be reviewed and reported to the MOECC on an annual basis.

13.6.1 Groundwater Monitoring Wells

Groundwater monitoring wells will be either for groundwater sampling or groundwater level recording, with some wells serving both purposes. The primary horizon for groundwater flow is the shallow bedrock (SBR) and, when present, the basal sand (BS) that occurs at the base of the fine-grained, clay dominated glaciolacustrine deposits (the dominant overburden of the Project area). Most monitoring wells will be screened within either the SBR or BS, or possibly both depending on ground conditions encountered during drilling. In the vicinity of the TSF a sand-clay/silt-sand sequence occurs. In this location, wells will be nested to sample the surficial sand (SS) and BS if the sand-clay/silt-sand sequence is encountered (i.e., similar to the existing BH3A Shallow and BH3A Deep). The well screen in the SS will monitor the performance of the seepage collection ditches in collecting shallow horizontal groundwater flow out of the TSF, whereas the well screen in the BS will provide monitoring for vertical leakage out of the base of the TSF.

13.6.2 Groundwater Monitoring Installations

It is expected that a total of ten well screens and piezometers (six single-screen wells, one nested well and one nested vibrating wire piezometer [VWP]) of the current groundwater monitoring installations will be used for the future groundwater monitoring network (Figure 13.6.1):

- Four of the single-screen wells are suitable for monitoring groundwater levels in the SBR and/or BS in response to dewatering to the west and south of the open pit at distal (BH7A and BH8A) and proximal (BH5A and BH6D) locations. If BH5A is destroyed during construction of the overburden stockpile, it could be replaced during operation of the mine.
- The east-west striking mineralized zone is expected to have elevated bedrock hydraulic conductivities, which could influence the extension of the drawdown cone towards the west. The western VWP nest (TL131121) lies in a strategic location for measuring the groundwater pressure during dewatering around the mineralized zone to the west of open pit.
- Three of the wells are located around the TMA (BH1A, BH2A and BH3A) and one well close to the WRSA (BH6D) which are suitable for groundwater quality monitoring. BH2A is in an up-gradient location and would provide background groundwater quality data during operation of the TSF.

An additional eight monitoring locations will be installed (Figure 13.6.1) for the groundwater monitoring network:

- Three wells (NW1, NW2 and NW3) are close to the perimeter of the TSF for groundwater quality monitoring. These will be nested with a screen in the SS and the BS/SBR (i.e., top and bottom of sand-clay/silt-sand sequence).
- Three wells (NW4, NW5 and NW6) with single screens in BS/SBR to the west of the open pit in distal locations to monitor groundwater levels between Thunder Lake and the perimeter of the Treasury

property. Two of these will also be used for groundwater quality monitoring of the WRSA (NW4 and NW5).

- Two wells (NW7 and NW8) with single screens in BS/SBR are required to the south of the open pit in distal locations to monitor groundwater levels along the perimeter of the Treasury property in the direction of Wabigoon.

All the installations of the groundwater monitoring network will be constructed and/or modified where necessary to include protective casings and markings and, if required, a barricade to prevent damage by heavy equipment during mine construction and operation. The groundwater monitoring stations are summarized in Table 13.6.1.

GOLIATH GOLD PROJECT
DRYDEN, ONTARIO, CANADA

Figure 13.6.1

PROPOSED GROUNDWATER MONITORING NETWORK

Legend

- 2013 Monitoring Well
- 2014 Geotechnical Hole
- Exploration Borehole with Vibrating Wire Piezometer
- MOE Well Outside ZOI
- MOE Well Within 5m ZOI
- MOE Well Within ZOI
- Proposed New Well for GWM Network
- Base Case 5m Drawdown
- Zone of Influence (ZOI)
- Stage 4 TSF Boundary
- Ultimate Pit Shell (Phase III)
- Low-Grade Stockpile
- Overburden Storage
- Waste Rock Storage
- Hydro Line
- Natural Gas Pipeline
- Highway 17
- Local Roadway
- Waterbody
- Watercourse

Landform

- GK: Kame
- GO: Glaciofluvial Outwash
- LP: Glaciolacustrine Plain
- OT: Organics
- RN: Bedrock Knob

× Indicates well not proposed for future groundwater monitoring network

NOTES:

1. UTM Zone 15N, NAD83
2. Base Data Source: OBM
3. 1:30 000 scale
4. Well and Modelling Data by AMEC
DATE: October, 2014
DRAWN BY: AT
CHECKED BY: AT
REVISION: 00

Meters
0 250 500 750

TREASURY METALS INCORPORATED

Table 13.6.1 Location and Type of Groundwater Monitoring Wells in Proposed Goliath Groundwater Monitoring Network

Well ID	Location	Type	Screened Units	Monitoring Objective
BH1A	West of TMA, Nursery Road	Quality	BS/SBR	Down-gradient water quality of TMA
BH2A	East of TMA, Blackwater Creek	Quality	BS/SBR	Upstream of TMA – background groundwater quality in basal sand/shallow bedrock
BH3A-S BH3A-D	South of TMA, Blackwater Tributary 2	Quality	SS BS	Down-gradient water quality of TMA in shallow sand Down-gradient water quality of TMA in basal sand
BH5A (or replacement well in similar location)	South of Open Pit, proximal	Level	SBR[1]	Water level proximal to open pit. Given the location on the edge of the overburden stock pile, it is possible that this hole will have to be replaced during the operational life of the mine
BH6D	West of Open Pit and WRSA, proximal	Quality and level	BS	Water level proximal to open pit and down-gradient of WRSA
BH7A	West of Open Pit, distal	Level	BS	Water levels distal to open pit, east of Thunder Lake
BH8A	South of Open Pit, distal	Level	BS	Water levels distal to open pit, north of Wabigoon. Furthest downstream monitoring of groundwater quality
TL13121-S TL13121-D	West of Open Pit, proximal	VWP	IBR – 64 mbg IBR – 223 mbg	Pressure response to dewatering in open pit in intermediate bedrock along mineralized zone
New well #1 (nested)	North of TMA	Quality	SS and BS/SBR	Northern edge of TMA – nested piezometer assuming presence of Sand-Clay/Silt-Sand sequence
New well #2 (nested)	North-west of TMA, Nursery Road	Quality	SS and BS/SBR	Down-gradient water quality – nested piezometer assuming presence of Sand-Clay/Silt-Sand sequence
New well #3 (nested)	South-west of TMA, Nursery Road	Quality	SS and BS/SBR	Down-gradient water quality – nested piezometer assuming presence of sand-clay/silt-sand sequence

Table 13.6.1 Location and Type of Groundwater Monitoring Wells in Proposed Goliath Groundwater Monitoring Network

Well ID	Location	Type	Screened Units	Monitoring Objective
New well #4	North-west of Open Pit and WRSA	Quality and level	BS/SBR	Down-gradient water quality of WRSA and water levels distal to open pit, east of Thunder Lake
New well #5	West of Open Pit and WRSA	Quality and level	BS/SBR	Down-gradient water quality of WRSA and water levels distal to open pit, east of Thunder Lake
New well #6	West of Open Pit, distal	Level	BS/SBR	Water levels distal to open pit, east of Thunder Lake
New well #7	South of Open Pit, distal	Level	BS/SBR	Water levels distal to open pit, north of Wabigoon
New well #8	South of Open Pit, distal	Level	BS/SBR	Water levels distal to open pit, north of Wabigoon

13.6.3 Groundwater Level Monitoring

There are nine single screen monitoring wells and one nested VWP in the groundwater level monitoring program with a total of 11 monitoring well screen and piezometers. These are generally completed in the SBR and/or BS where the most drawdown is expected to be observed.

Manual water level measurements will continue on a monthly basis in the existing wells. However, prior to mining, all wells will be equipped with pressure transducers set to record water levels once per day, and downloaded on a quarterly basis. Two of the wells will be equipped with a barologger to allow data correction for barometric effects. A data logger will be obtained for the VWP nested piezometer and a similar recording and downloading frequency will be undertaken for this installation. Installation of new wells and pressure transducers/loggers will be done a year prior to mine construction.

13.6.4 Groundwater Quality Monitoring

There are four single screen and four nested well locations in the groundwater quality monitoring program with a total of 12 monitoring well screens. These wells are to be screened in the SBR and/or BS with the nested well locations having an additional screen in the SS where sand-clay/silt-sand sequence is present.

Groundwater quality wells will be sampled at a frequency of four times per year. Water levels will be taken prior to sampling. Samples will be analyzed for the following parameters suites:

- Metals (dissolved);
- Cyanide in monitoring wells around TSF (total, free and weak acid dissociable (WAD) for first year, then total and WAD thereafter);
- Major anions and cations; and
- In-situ field parameters (temperature, reduction-oxidation potential, pH, dissolved oxygen).

Several existing wells in the proposed groundwater quality monitoring program have been sampled as part of baseline studies with the earliest sampling dating from June 2013. These wells will continue to be sampled.

As mentioned above, the groundwater quality program sampling frequency will be quarterly for the pre-construction, construction, and operation phases. The pre-construction phase will begin well installation a year before mine construction so as to provide a year of baseline data.

13.6.5 Post-Closure

Groundwater quality monitoring would be continued until both the TMA and WRSA are capped. Termination of the program would be expected following a satisfactory review of the monitoring data collected during mine operation.

13.7 TERRESTRIAL SPECIES AND SPECIES AT RISK

13.7.1 Objectives

A wildlife monitoring plan will be implemented to ensure that effects on wildlife are properly mitigated. EMP monitoring will be based, where possible, on standard survey protocols used during baseline studies so that any changes in local species populations may be detected.

The objectives of the monitoring plan are to determine:

- The direct loss of habitat resulting from Project development for targeted species including Species at Risk (SAR);

- Unanticipated reduction in habitat suitability for various species resulting from disturbances caused by the Project (e.g., noise, lighting);
- Use of alternate habitat within the regional study area by SAR and targeted species; and
- The frequency of wildlife-Project interactions (e.g., vehicle collisions, waterfowl use of tailings ponds, nuisance wildlife).

Additional items of monitoring will be determined though consultation with Federal and Provincial regulatory bodies.

13.7.2 Monitoring Methods

Methods for determining impacts to terrestrial wildlife by the Project will be completed using approved standard survey protocols used by Provincial and Federal regulators.

13.7.3 Progressive Management

Adaptive management will be developed though consultation with OMNRF, First Nations, and public stakeholders. Mitigation will take the form of adaptive management, where data analysis of current behaviour and potential stressors used to determine whether corrective actions beyond those used are required.

13.7.4 Reporting

Subject to acceptance of the EMP by Federal and Provincial governments, monitoring results will be provided to the parties of the EMP annually during the construction, operation and closure phases of the Project.

Additional reporting need will be prescribed in Provincial and Federal environmental approvals including SAR permits.

13.8 METAL MINE EFFLUENT REGULATIONS

Canadian metal mines are required to comply with the Metal Mines Effluent Regulations (MMER) which includes an EEM program. Study requirements are presented in Schedule 5 of the MMER. These regulations require metal mines to conduct studies to detect, confirm, and define any effects of the mine discharge on the aquatic environment. These include annual effluent and water quality monitoring studies and periodic biological studies. Effluent monitoring involves physical and chemical quality measurements as well as acute and chronic (sub-lethal) toxicity assessments of the effluent prior to discharge to the environment. Water quality monitoring involves the measurement of physical and chemical water quality parameters in the effluent plume within the receiving waterbody and in a reference location for comparison. The results of the effluent and water quality sampling are reported annually to Environment Canada while the biological monitoring studies are report as required.

13.8.1 Annual Effluent and Water Quality Monitoring

An annual effluent and water quality monitoring program, as required in Schedule 5, Part 1 of the MMER, will be established for the Project to monitor mine effluent and the receiving waterbodies. These programs require the identification of a final discharge point and periodic, sampling of the effluent, receiving waterbodies, and a reference waterbody. Study design, sampling methods, QA/QC, sample analyses and detection limits, and data analyses and reporting requirements are provided by Environment Canada (2012; 2014). The monitoring program will be finalized through discussions with Environment Canada and the Technical Advisory Committee (TAC). It is anticipated that the sampling locations will be finalized prior to construction so that concurrent baseline data can collected prior to effluent discharge.

13.8.1.1 Final Discharge Point

The Water Management Plan (Appendix F) has identified a single point of discharge for all water collected or used in the Project operations. The Final Discharge Point (FDP) will be on Blackwater Creek immediately south of the TSF.

13.8.1.2 Reference Waterbody

Reference waterbodies should be similar in size and morphology to the receiving waterbody and beyond the influence of the Project or other developments which could influence the waterbody. For stream or river discharges there is an option for an upstream reference location. Given the size of Blackwater Creek and the upstream location of the FDP there are limited options for a reference site. Other suitable nearby waterbodies that could serve as reference locations are Hughes Creek and Nugget Creek.

13.8.1.3 Effluent Characterization

Effluent characterization is conducted four times in a calendar year (e.g., mid-winter, spring, mid-summer, late fall). Samples are collected from the effluent stream at the FDP immediately before the effluent contacts and mixes with the receiving waterbody. The samples are analyzed for the deleterious substances listed under the Schedule 5, s.4(1) of the MMER (hardness, alkalinity, electrical conductivity, temperature, total aluminum, total cadmium, total, iron, total mercury, total molybdenum, total selenium, ammonia, and nitrate) as well as nutrients, other metals and ions, and physiochemical and biological characteristics, depending on the final study design. Sub-lethal toxicity tests are required two times per calendar year for the first three years of operation and once per calendar year thereafter. The toxicity tests are performed at an accredited laboratory on a fish species, an invertebrate species, and either an aquatic plant species or an algal species.

13.8.1.4 Water Quality Monitoring

The receiving waterbody and the reference waterbody are usually sampled four times per year (late spring, mid-summer, late summer, and fall). The number and location of sampling sites will be finalized in consultation with Environment Canada and the TAC. The samples are analyzed for the deleterious substances listed under the Schedule 5, s.4(1) of the MMER (hardness, alkalinity, electrical conductivity, temperature, total aluminum, total cadmium, total, iron, total mercury, total molybdenum, total selenium, ammonia, and nitrate) as well as nutrients, other metals and ions, and physiochemical and biological characteristics, depending on the final study design. In addition, field parameters (temperature, conductance, dissolved oxygen, total dissolved solids, and pH) will be collected using a calibrated multi-parameter system such as the YSI 600 QS.

13.8.1.5 Annual Effluent and Water Quality Monitoring Report

An annual report on the effluent and water quality monitoring studies must be submitted to Environment Canada by March 31 of the year following the studies. The report content requirements are set out in Schedule 5, s.8 of the MMER.

13.8.2 Biological Monitoring Studies

There are four types of EEM biological monitoring studies, outlined in Schedule 5, Part 2 under the MMER:

1. Site characterization;
2. Fish population;
3. Fish tissue; and
4. Benthic invertebrate community.

The site characterization study describes the Project and the environmental protection practices as well as the geological, hydrological, limnological, chemical, and biological features of the receiving and reference waterbodies. The study is also required to present a description of the effluent plume in the receiving waterbody and any other relevant information.

The Project effluent water quality will meet PWQO and in some cases have lower parameter concentrations than background (Appendix W); however; it is anticipated that a fish population study will be required. Under Schedule 5 Part 2 s.9(b) of the MMER, a fish population study is required if the effluent plume concentration in the receiving waterbody is greater than 1% at 250 m from the FDP and regardless of the effluent water quality. The effluent plume concentration is anticipated to remain above 1% for the length of Blackwater Creek.

It is not anticipated that a fish tissue study will be required for the Project. Under Schedule 5 Part 2 s.9(c) of the MMER, a fish tissue study is only required if the total mercury concentration in the effluent is equal to or greater than 0.10 µg/L. Total mercury concentrations in the effluent are not anticipated to exceed background concentrations of 0.02 µg/L.

The benthic invertebrate community study is anticipated to be an ongoing monitoring requirement for the Project. Benthic invertebrate community studies are a common monitoring method used to of provide early indications of potential effects.