



WASAMAC GOLD MINE PROJECT

Detailed Project Description

Summary

FINAL VERSION

NOVEMBER 2020





WASAMAC GOLD MINE PROJECT, ROUYN- NORANDA (QUÉBEC)

SUMMARY - DETAILED PROJECT DESCRIPTION

MONARCH GOLD CORPORATION

PROJECT N°: 201-09154-00
DATE : NOVEMBER 2020

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Reference to be cited:

WSP. 2020. *WASAMAC GOLD MINE PROJECT, ROUYN-NORANDA (QUÉBEC). SUMMARY - DETAILED PROJECT DESCRIPTION. RAPPORT PRODUIT POUR MONARCH GOLD CORPORATION. 38 PAGES AND APPENDIX.*

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ABBREVIATIONS ET ACRONYMS

Abréviation, acronyme	Définition
Au	Gold symbol
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
GHG	Greenhouse Gases
LQE	Loi sur la qualité de l'environnement
MAMH	Ministère des Affaires municipales et de l'Habitation
MCC	Ministère de la Culture et des Communications
MEI	Ministère de l'Économie et de l'Innovation
MELCC	Ministère l'Environnement et de la Lutte contre les changements climatiques
MERN	Ministère de l'Énergie et des Ressources naturelles
CO ₂ Eq	Carbone dioxyde equivalent
gr/t	Grams per tonne
SO ₂	Sulphur dioxyde
tn	Metric tonne
tpd	Tonnes per day
4Rs	Reduce, Reuse, Recycle and Reclaim

This document is a plain-language summary of a Detailed Project Description as required by the Impact Assessment Agency of Canada (IAAC) in recognition of Schedule 1, paragraph 25 of the 2019 *Information and Management of Time Regulations* (SOR / 2019-283) and the Guide to Preparing an Initial Project Description and a Detailed Project Description under the *Impact Assessment Act* (IAA) (LC 2019, c. 28).

Briefly, the Wasamac Gold Mine Project includes:

- An underground mining exploitation with a life of mine of 11 years;
- Underground infrastructures dedicated to the ore and waste rock transportation;
- An ore processing plant;
- Waste rock, tailings and overburden accumulation areas;
- Support infrastructure (electrical power supply, communication, heating, ventilation, water treatment, etc.).

This document is a translation of the official French language version of the Detailed Project Description Summary. In case of discrepancy, the original official document in French shall prevail.

1 PROJECT NAME, SECTOR AND PROPOSED LOCATION

Project Name	Wasamac Gold Mine project
Type/Sector	Mining and Minerals, Gold
Proposed Location	City of Rouyn-Noranda territory, 15 km west of down-town, Abitibi-Témiscamingue administrative region, Province of Québec (see coordinates in section 1.12.1 of this document)

2 PROPONENT INFORMATION

Proponent	Monarch Gold Corporation
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Website	www.monarquesgold.com

3 ENGAGEMENT ACTIVITIES WITH THE AUTHORITIES OR OTHER PARTIES

3-1 CONSULTATION PROCESS

Various means of communication, including the following, have been established to install and maintain dialogue with the community and stakeholders:

- written communications to citizens (advice on future activities and works);
- a newsletter (published twice a year) distributed by mail to nearby residents and by email to stakeholders;
- an online discussion forum (tool to be redefined);
- an email address dedicated to community relations (administered daily by the Vice-President of Operations and Community Relations);
- individual meetings with the neighbours of the Project (mitigation measures and corrections of work done prior to the acquisition by Monarch Gold Corporation);
- personalized letters and regular exchanges with the City of Rouyn-Noranda (urban planning department);
- Four coffee meetings for neighbours of the Project and elected officials of the City (January 22, 2018, October 24, 2018, October 3, 2019, and February 11, 2020);
- communication, by mail, of the the coffee meetings reports to the neighbours of the Project;
- presentations to various municipal, para-municipal and community organizations.

In September 2019, the Corporation began a consultation process prior to triggering the impact assessment process with certain stakeholders affected by the Project.

The stakeholders targeted as part of this prior consultation process are:

- the neighbours of the Project (nearby residents, within a radius of five kilometers);
- the Témiscamingue Watershed Organization (OBVT);
- the Conseil régional en environnement de l'Abitibi-Témiscamingue (CREAT);
- the Société d'Eau Souterraine de l'Abitibi-Témiscamingue (SESAT);
- the City of Rouyn-Noranda (Service of regional planning and town planning, a second meeting with other City services and finally in a third meeting with the members of the municipal council of the city);
- the MERN - Abitibi-Témiscamingue regional directorate;
- the Rouyn-Noranda Chamber of Commerce and Industry - Management and President.

A virtual coffee meeting was held on November 4, 2020. It included a presentation of the Property Value Maintenance Program, the online participatory platform and a discussion of the upcoming drilling campaigns on the property.

Meetings with other stakeholders, including the federal and provincial deputies and the MELCC regional directorate, will be scheduled.

3-2 MAIN ISSUES

Engagement activities undertaken to date helped define concerns shared by citizens. The main concerns expressed are presented in Table 1.

Table 1 Main Concerns Expressed during Engagement Activities

Theme	Concerns
Governance	<ul style="list-style-type: none"> – The proponent's commitment – The importance of establishing a relationship of trust – The establishment of a monitoring committee
Project description	<ul style="list-style-type: none"> – Surface facilities – Tailings management facilities – Waste rock pile – Mitigation measures to be put in place – Integration within the landscape – Land-use conflict – Development of other areas – Variation in the Project's design
General nuisances	<ul style="list-style-type: none"> – Noise and vibrations (drilling and blasting) – Dust – Traffic – Cohabitation with the future Kékéko Hills Regional Park – Railwayroad traffic – Light pollution
Biophysical environment	<ul style="list-style-type: none"> – Lake preservation – Groundwater (water table) – Drinking water – Wells – Soil settlement – Fauna and flora
Social environment	<ul style="list-style-type: none"> – Nuisances displacement – Residences value – Neighbourhood conflicts – Stress – Security

Finally, in terms of a future mobilization plan, and with a view to maintaining a strong and continuous link with the community, the Corporation wishes to set up a working group in collaboration with the neighborhood and stakeholders. Although elements remain to be discussed with the community, the mandate of this group was presented and validated during the February 2020 café-rencontre, and consists of :

- Identify and establish the conditions of acceptability of the Wasamac project.
- Formulate recommendations to alleviate concerns arising from the issues.
- Maximize the possible economic and social benefits.

Once constituted, the working group will be called upon to play a central role in the impact assessment procedure, in a spirit of collaboration and search for solutions. Meetings on themes of interest (concerns and issues) may be organized in order to address in greater depth the elements that are of concern or interest to the community.

4 ENGAGEMENT ACTIVITIES WITH INDIGENOUS GROUPS

4 A) INFORMATION PROCESS

The Project site is located on the ancestral territory of the Algonquin Anishinabeg Nation (Anicinabek). The nearest communities are Pikogan, Timiskaming and Wahgoshig (Ontario).

A first meeting with the Conseil de la Première Nation Abitibiwinni of Pikogan took place in October 2018 during which representatives of Monarch Gold Corporation presented the Project and a progress report. The Conseil de la Première Nation Abitibiwinni of Pikogan expressed, among other things, their interest in being informed and involved in the next stages of the Project. A second meeting took place on December 5, 2019. No concerns were raised at those meetings.

In July 2020, Monarch Gold Corporation sent information letters to the following ten indigenous groups identified as being potentially affected by the carrying out of the Project; information letters were also sent to the Eeyou Istchee Baie-James Regional Government:

- Communauté anicinape de Kitcisakik;
- Conseil de la Première Nation Abitibiwinni;
- Kebaowek First Nation;
- Kitigan Zibi Anishinabeg;
- Long Point First Nation;
- Nation Anishnabe du Lac-Simon;
- Timiskaming First Nation;
- Wolf Lake First Nation;
- Algonquins of Barriere Lake;
- Wahgoshig First Nation.

Following the contacts established with these First Nations by mail during the spring and summer of 2020, three First Nations (Timiskaming First Nation, Conseil de la Première Nation Abitibiwinni and Wahgoshig First Nation) have directly expressed their interest to meet with Monarch Gold Corporation and be involved in the development of the Project because of the expected potential impacts on their traditional territory. Meetings are ongoing or planned with these groups to better identify their interests and expectations about how they can be involved in the preparation of the impact assessment.

Other First Nations from the above list have indicated to the IAAC their willingness to take part in the Project's federal impact assessment process. These First Nations, and their concerns, will be considered through the consultations conducted by the IAAC.

In addition, Monarch Gold Corporation may involve First Nations through:

- An active presence within the Working Group whose mandate is notably to identify the conditions of social acceptability of the project and to participate in discussions on the topics of interest that will be covered in the impact study.
- The establishment of a specific exchange table on the environmental component with Aboriginal groups could be set up.

4 B) MAIN CONCERNS AND ISSUES RAISED

Monarques Gold Corporation acknowledges the clarifications made by the First Nations, through letters and comments, regarding the nature of their concerns regarding the Project, namely:

- effects deemed significant on the exercise of aboriginal rights;
- effects on the claimed traditional territory;
- the importance of providing for appropriate accommodation measures prior to any authorization of the project, including real impacts and benefits for Aboriginal groups;
- importance of collaboration in the preparation of the impact assessment, particularly with respect to the description of the anticipated negative impacts on the rights of Aboriginal peoples;
- importance of establishing a working relationship based on trust;
- importance of site restoration that allows for a return to traditional land use.

The objectives of the engagement plan to proactively engage Aboriginal groups on an ongoing basis are:

- Meaningful upstream consultation that is used to assess the negative impacts of the project on the exercise of Aboriginal rights, to take them into consideration and, if necessary, to take accommodation measures;
- Clear description of potential negative effects in the natural environment;
- Evidence that the project design incorporates input from Aboriginal groups;
- Project decisions based on community input into the effects assessment.

A list of tools and methods identified by Aboriginal groups during the project planning stage that will ensure meaningful engagement and consultation during the impact assessment process. A few general measures are considered:

- The timely sharing of all available information on the impacts of the project, including all studies and data related to the environment, subject to confidentiality obligations;
- Communicating with affected Aboriginal groups in a routine, open and transparent manner;
- Determining reasonable timelines based on the capacities of Aboriginal groups;

- Consideration of cultural needs, including seasonal issues (such as harvesting and hunting), in planning consultation activities;
- Facilitated access to meetings (such as accessibility of meeting locations, timing of meetings, transportation, child care) ;
- Consideration of and adherence to community consultation protocols during consultation or engagement activities.

5 STUDIES, PLANS OR REGIONAL ASSESSMENTS

The following studies were carried out within the project area by the former owner of the Wasamac site, as well as by the Monarch Gold Corporation:

- A baseline study of the biophysical environment was carried out by AECOM in 2013. The study detailed:
 - the physical environment (physiography, climate, air quality, geology, hydrogeology, flood flows and low water levels in the lakes, surface water quality, soil quality and sediment quality);
 - the biological environment (wetlands and terrestrial vegetation, plant inventories, herpetofauna, fish, avifauna, benthic invertebrate communities, mammals and species at risk and their habitats).
- A noise study carried out in 2013 by Vinacoustik inc. which focused on the sound impact at sensitive points in the Wasamac project, more particularly for an excavation phase of a ramp, considering the effect of the wind;
- A hydrogeological study carried out in 2012 and 2014 by Richelieu Hydrogéologique Inc. to establish the hydrogeological context and assess the impacts of dewatering old underground openings on groundwater users and on the environment, in addition to recommending, if necessary, mitigation measures;
- A technical notice prepared by SNC-Lavalin Inc. in 2016 to assess the settlements resulting from the groundwater withdrawal caused by pumping activities and to issue the required conclusions and recommendations;
- A NI 43-01 technical report on the update of the estimated mineral resources, prepared by RPA in October 2017;
- A feasibility study carried out by BBA in December 2018;
- A baseline study of the receiving environment carried out by Englobe in February 2019.

No regional assessment relevant to the Project has been or is being carried out under sections 92 and 93 of the IAA.

6 STRATEGIC ASSESSMENT UNDER SECTION 95 OF THE IAA

Environment and Climate Change Canada has published a document on the strategic assessment of climate change applicable to projects designated under the IAA. This strategic assessment will guide how federal impact assessments will consider a project's greenhouse gas emissions and climate change resilience. It describes the greenhouse gas and climate change-related information that project proponents must submit at each phase of a federal impact assessment. Monarch Gold Corporation understands that the guidelines and requirements contained in this document will serve as the basis for the assessment of its Project.

7 PURPOSE OF AND NEED FOR THE PROJECT, AND POTENTIAL BENEFITS

The current trend in gold prices is upward and prices are favorable for mining project development. The results of the feasibility study completed by BBA in December 2018 indicate that the Wasamac project is economically viable considering a gold price of 1,300 US\$/oz. Various factors, combined with the current gold price, are contributing to the high profitability of the Wasamac mining project. These factors are the proven resources, the location of the deposit, the proximity of communication routes (national road, railway) which facilitate supply needs, a city with several services and resources to support the development of mining projects, a pool of experienced workers in the mining sector and finally, the existing structures located on the site (shafts and drifts of the previous operations) which allow savings in development works.

According to available technical data, the Wasamac gold deposit has:

- Measured and Indicated mineral resources of 29.86 Mtm at an average grade of 2.70 gr/t Au;
- Proven and Probable mineral reserve of 21.46 Mtm at an average grade of 2.56 gr/t Au.

The main highlights of the feasibility study which justify the investments and recommend the continuation of the Project include:

- **Solid output:** Annual average gold production of 142,000 ounces over 11 years;
- **High return:** Pre-tax internal rate of return of 23.6%, net present value of \$522 M and payback period of 3.6 years;
- **Low production cost:** Production cash costs of \$720/oz (US\$550/ounce) and all-in-sustaining costs of \$826/ounce (US\$630/ounce);
- **CAPEX:** Initial capital expenditures of \$464 M, including about \$230 M for the mill and tailings facility;
- **Strategic location:** mine surface infrastructure will be located on recently acquired land accessible by Routes 117 and 391, and 200 m from the railway which could lead to custom milling facilities. Furthermore, the Project is near Rouyn-Noranda, a major mining center in a jurisdiction favorable to the mining industry and which benefits from developed infrastructures, including year-round access roads and the provincial electricity distribution network;
- **Strong exploration potential:** Deposit largely underexplored at depth and along strike.

Significant economic benefits for Quebec are associated with the Project, particularly for the City of Rouyn-Noranda, the Abitibi-Témiscamingue region, the Province of Quebec and potentially, the Province of Ontario. According to preliminary estimates, the main benefits associated with the Project include:

- An investment of 460 million dollars in capital for the installation of equipment and infrastructure for the future mine;
- The creation of 400 jobs on average during the construction phase and about 300 jobs to carry out the daily operations of the mine;
- The award of various contracts to qualified regional contractors during the construction phase;
- The award of various local and regional service and supply contracts during the operating phase, such as for equipment transportation and maintenance;
- The generation of significant tax and property revenues to the community, the region, the province and the federal government.

8 APPLICABLE PROVISIONS

The provisions in the schedule to the *Physical Activities Regulations* (DORS/2019-285) describing the project, in whole or in part are the following:

- 18(c) The construction, operation, decommissioning and abandonment of a new metal mine, other than a rare earth element mine, placer mine or uranium mine, with an ore production capacity of 5 000 tonnes per day or more.
- 18(d) A new metal mill, other than a uranium mill, with an ore input capacity of 5 000 t/day or more.

Thus, the preliminary analysis of the Project indicates that it is subject to the IAA since it is involved in a new mine and metallurgical plant with an ore production capacity of 6,000 tpd. However, the IAAC will have to render a decision on whether the designated project will be subject to an impact assessment.

9 ACTIVITIES, INFRASTRUCTURES, PERMANENT OR TEMPORARY STRUCTURES AND PHYSICAL WORKS

9-1 MAIN INFRASTRUCTURES AND PERMANENT STRUCTURES AND WORKS

Surface infrastructures and facilities related to the ore treatment (crushing et concentrator) will be located on the northern side of Route 117. An overall view of proposed ore processing facilities as planned in the feasibility study is presented in Figure 1 as well as at the following link: <https://www.monarquesgold.com/en/our-assets/val-d-or/wasamac>.

The main proposed surface infrastructures and facilities are:

- Ore processing plant;
- Tailings filter plant
- Primary crushing building;
- Tailings, waste rock and overburden management facilities;
- Ore stockpile dome;
- Access roads;
- Gatehouse parking area;
- Administrative offices and mine dry;
- Service buildings (warehouse and workshop);
- Water management and treatment system;
- Potable water withdrawal, treatment and distribution system;
- Waste water management and treatment system;
- Electrical substation;
- Three ventilation raises.

No fuel storage is required on surface. Fuelling will be provided by a mobile fuel truck.



Source : From BBA (2018), 3D rendering of Wasamac plant.

Figure 1 Overall View of Ore Processing Facilities

9-2 MINERAL RESOURCES AND RESERVES

Based on the available data, the mineral resources and mineral reserves of the Project, estimated in accordance with National Instrument 43-101, are as follows:

- Measured and indicated mineral resources of 29.86 Mt at an average grade of 2.70 gr/t;
- Proven and probable mineral reserves of 21.46 Mt at an average grade of 2.56 g/t.

9-3 ORE EXTRACTION

Access to the mine is via twin declines with an approximate length of 2,500 m. The portal will be located on the northern side of Route 117, near the surface infrastructures area. The access for workers and supplies is independent from the ore and waste rock transportation system, which could also be used as an emergency exit.

The main proposed underground infrastructures and facilities are:

- Underground gold mine;
- Twin declines;
- Ore and waste rock hauling system;

- Paste backfill plant;
- Ventilation system (installed underground);
- Heating system (electrical);
- Mine water pumping stations;
- Explosives and detonators storage;
- Fuel storage and dispensing;
- Garage and refuge stations.

The mining methods proposed by Monarch Gold Corporation aim to incorporate the latest mining technologies combined with a top-down mining method (Top Down Long Hole Stoping). In addition, the Corporation decided to opt for an innovative underground hauling system, the Rail-Veyor®, which will haul the ore from underground to the transfer tower feeding the primary crusher on surface. This technology is currently operational at the Agnico Eagle Goldex project in Val-d'Or. The Rail-Veyor® is a light rail-mounted electrical system that relies on a loop circuit and mobile cars to move the ore and waste rock from the deepest part of the mine to its unloading point, then return to their starting point. This system gives the option to locate the ore processing plant away from populated areas and to avoid surface trucking to haul the ore.

A paste backfill (tailings + cement) will be used to ensure long-term stability of the underground openings. This will also prevent approximately 1.6 Mtm of waste rock to be sent to the surface pile. The paste backfill plant and distribution network will be entirely located underground.

The main mobile equipment required for mining are:

- Development and production drills;
- Seven ton electrical scoops/LHD;
- Reclaim feeders;
- Bolters;
- Emulsion trucks;
- Shotcrete sprayer;
- Trans mixer;
- Scissor lifts;
- Cassette trucks;
- Cable bolter;
- Mobile rock breakers;
- Grader;
- Service trucks.

9-4 ORE PROCESSING

The preliminary process flowsheet begins with the crushing and grinding of the ore. Prior to leaching, the ground slurry will be thickened to obtain the appropriate density for the sodium cyanide leaching circuit. Following this, the carbon-in-pulp, carbon elution and electrowinning circuits will allow gold recovery. On average, the expected gold recovery is between 81.6% and 92.7%. The process also includes carbon reactivation and cyanide destruction circuits.

The main process reagents are cyanide sodium, lime, sodium hydroxyde (caustic soda), hydrochloric acid, copper sulphate, sodium metabisulphite, flocculant, activated carbon, antiscalant, oxygen and refining flux. Most of the process reagents will be located within the process plant, except for the lime storage silo which will be located outside.

The ore processing system will produce pulp tailings. Part of the tailings will be used for underground paste backfill and the other part will be pumped to a filtration plant to bring the moisture contents down to 15%. Filter cakes will then be trucked to a dry-stack tailings pile.

9-5 WASTE ROCK AND TAILING MANAGEMENT

A preliminary geochemical characterization was carried out on seven waste rock samples. Additional tests will be conducted to confirm the waste rock acid generating and leaching potential.

Most of the waste rock produced during the operation will be used underground as backfill material. Only part of the waste rock extracted for the twin declines development will be stored on surface on a 61,600 m² pile located west from the ore processing plant.

A geochemical characterization carried out on the ore processing tailings shows that they are non acid generating and even have some excess neutralization capacity.

Part of the tailings is planned to be used underground as cemented paste backfill.

For the tailings that will have to be stored on surface, the management option selected for the feasibility study is the filtered tailings (Dry-Stack) which consists of dewatering the tailings in a filter press plant and piling them on an accumulation area. The following are some technical and environmental advantages of this management method:

- reduces the accumulation area footprint;
- optimizes of reclaim water reuse for the process plant;
- significantly reduces of water management inside the accumulation area;
- reduces risks of impoundment structures failure (dam stability);
- reduces risks of groundwater contamination;
- facilitates progressive rehabilitation.

The accumulation area was designed to store 8.14 Mm³ filtered tailings, for an anticipated volume of 7.96 Mm³ to manage on surface; the maximum height will be 36 m.

In addition to the filtration plant and the accumulation area, the other infrastructures related to the tailings management facilities are:

- a pumping system that brings the tailings to the filtration plant and returns the reclaim water to the ore processing plant;

- an access road;
 - a garage;
 - a water management pond;
 - a water treatment system.
-

9-6 WATER MANAGEMENT AND TREATMENT

The waters to be managed during the Project are mainly mine water (natural groundwater recharge), water associated with the tailings management, and contact runoff.

Water management will include ditches to collect contact water and two sedimentation ponds to store water from operations and contact water so that it is recirculated in the process.

As for the process water, some will end up with the tailings, which will be removed and reused in the process. Exceeding water will be treated and controlled before being released to the environment.

Two water treatment facilities will be required for the project. One will be located at the tailings management facilities, and its main purpose will be to treat runoff water from this facility. The second will be located at the surface infrastructure area and will be used to treat water to recirculate for the process operations and to treat the excess water.

The preliminary water balance provides for the reuse and recirculation of 95% of the water from the surface infrastructure area for processing, whereas only 5% will be released to the environment after treatment and control. For the tailings management facilities area, surface runoff will be completely collected, and residual water contained in the filtered tailings will be released to the environment after treatment and control.

9-7 RELATED INFRASTRUCTURE

The Project also provides for a system for water withdrawal, treatment and distribution of drinking water, as well as a system for the treatment and management of domestic wastewater. The effluent from the domestic wastewater treatment system will be piped into the retention basin in the surface infrastructure sector. The sludge will be recovered and disposed of by an independent company.

9-8 SITE RESTORATION AND REHABILITATION

Closure work will be carried out in accordance with the applicable regulations. The main objective of a mining closure plan is to return the site to an acceptable condition for the community. Protection, rehabilitation and closure measures that will be presented will aim to return the site to a satisfactory condition by:

- Eliminating the production and spread of contaminants that could damage the receiving environment and, in the long term, aiming to eliminate all forms of maintenance and monitoring;
- Returning the site to a condition in which it is visually acceptable;
- Returning the infrastructure areas to a state that is compatible with future use.

Preliminary closure and post-closure monitoring costs were estimated at \$6.06 M¹.

¹ For this estimate, tailings and waste rock were considered to be non-acidic and non-leachable.

10 MAXIMUM PRODUCTION CAPACITY AND PRODUCTION PROCESS

The ore processing plant will be built on the northern side of Route 117. Daily production will be variable, particularly during the start-up period of mining operations, as is often the case in the industry. The plant's average ore production rate will be 6,000 tpd. The ore production rate will vary over time and will range from 2,074 tpd to 6,053 tpd.

The production process is described in Section 9.1.

11 PROJECT SCHEDULE

Table 2 summarizes the main stages of the Project. There is no expansion planned.

Table 2 Main Stages of the Wasamac Gold Mine Project

Period	Stage of Completion
December 2018	Feasibility study
3 Q 2020	Initial description submitted to the federal authorities
4Q	Detailed description submitted to the federal authorities
3Q / 4Q 2020	Planning phase
4Q 2020 / 2Q 2023	Impact statement preparation (after receipt of the IAAC Guidelines) Impact assessment analysis by the federal authorities
3Q 2023	Decision-making by the federal authorities
4Q 2023 / 1Q 2025	Site preparation and construction
2025 / 2035	Production
2036 / 2038	Closure and site rehabilitation
2039 / 2044	Post-closure period

12 POTENTIAL ALTERNATIVE MEANS

12 A) POTENTIAL ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

The Project components described in the previous sections are those that were deemed preferable for the feasibility study published in 2018. The Project development process will include a more detailed analysis of the potential alternatives means of carrying out the Project as well as optimization of these components. Without being limited to it, the impact study of the Wasamac project will include the analysis of the following variants:

- 1 Project site location;
- 2 Access roads location;
- 3 Location and design of the ore processing facilities. It should be noted that the proponent has initiated a custom milling options inventory. Exploratory steps have been taken with mills offering the required processing capacity. None of the existing ore processing plants operated by the Monarch Gold Corporation have the required processing capacity (Beacon: 750 tpd; Camflo: 1,600 tpd);

- 4 Mine waste management;
- 5 Mine waste storage facilities location;
- 6 Water supply and waste water management;
- 7 Water management and final effluent discharge location.

No alternative was considered to the underground mine method chosen for the Project.

Regarding item 3 for the location and design of the ore processing facilities, Monarch Gold Corporation has signed a memorandum of understanding with Glencore Canada Corporation in connection with the potential use of Glencore's Kidd concentrator for the treatment of ore to be mined from the Wasamac project.

This memorandum of understanding includes a four-phase work plan to be executed by Monarch:

- Phase 1 – Upgrading Study
- Phase 2 – Negotiation and Signing of a Toll Milling Agreement
- Phase 3 – Concentrator Upgrading Work
- Phase 4 – Performance of the Toll Milling Services

In the interest of consistency, a memorandum of understanding with the railway owner, the Ontario Northland Railway, was signed. This agreement will allow Monarch Gold Corporation to negotiate a favourable rate for the transportation of ore from the Wasamac project to the Kidd concentrator.

12 B) POTENTIAL ALTERNATIVE TO THE PROJECT

Alternatives to the project are functionally different ways to meet the needs of the project and achieve its purpose, and are technically and economically feasible. Considering that the Wasamac project is the only Monarch Gold Corporation project that has passed the feasibility stage, there are no alternatives that allow an economically viable exploitation of gold resources.

13 DESCRIPTION OF THE PROPOSED SITE

13 A) GEOGRAPHIC COORDINATES

The Project is located in the administrative region of Abitibi-Témiscamingue, more precisely in the township of Beauchastel, approximately 15 km west of downtown Rouyn-Noranda.

The geographic coordinates (latitude/longitude, Nad 83) of the deposit, the surface infrastructures and the tailings management facility are as follows:

- Deposit: 48° 12' 22,217" N ; 79° 11' 44,725" W;
- Surface infrastructures: 48° 12' 36,360" N ; 79° 13' 11,464" W;
- Tailings management facility: 48° 14' 8,717" N ; 79° 15' 48,384" W.

Map 1 illustrate the Projects's regional location.

13 B) SITE MAP

Map 4 locates the Project's proposed location, as well as the various elements of the Project in relation to each other.

13 C) OFFICIAL DESCRIPTION OF THE LAND

MINING TITLES

Monarch Gold Corporation has three mining concessions (CM349, CM364 and CM370) and 32 mining claims related to the Wasamac deposit location. The Corporation also holds mining claims in the sector envisaged for the concentrator tailings accumulation area, in the Lac Arnoux sector as well as in a sector west of the Wasamac property.

Map 2 illustrates the location of the mining concessions as well as the mining claims held by Monarch Gold Corporation.

LAND OWNERSHIP

The mining property (concessions) is on lots of the renovated cadastre of Quebec belonging to Monarch Gold Corporation, as well as on private lots and public lands.

The Corporation owns the lots of the Quebec renovated cadastre where the surface infrastructures would be located. The tailings management facilities would be located on public land.

Map 3 illustrates the land tenure within the proposed area for the establishment of the various Project components.

13 D) AND E) PROXIMITY OF LOCAL AND INDIGENOUS COMMUNITIES

One permanent residence is located within the footprint of the planned infrastructure, two permanent residences are located within 200 m of the implantation site, and four permanent residences are located within 300 m of the implantation site. The nearest seasonal or temporary residence (forest shelter, see Map 3) to the Project is located approximately 115 m from the planned road to the tailings management facilities area.

The First Nations closest to the Project site are the Pikogan (91 km), Timiskaming (69 km), Long Point (84 km) and Wahgoshig, Ontario (73 km). There are currently no comprehensive land claim negotiations or self-government agreements in the project area. There are also no lands covered by a comprehensive land claim agreement. However, the Project involves infrastructure located on or near the southern portion of the James Bay and Northern Quebec Agreement (JBNQA). In addition, the Project covers territory located south of the large Harricana watershed recognized as Algonquin Territory. The Grand Council of the Crees has not indicated or confirmed any interest in the Project, which is consistent with their stance in previous Abitibi mining projects.

13 F) PROXIMITY TO FEDERAL LANDS

No federal land is located within the Wasamac project area. No federal lands will be used for the purpose of carrying out the Project.

The Project is located on land that is subject to a comprehensive land claim agreement or a self-government agreement.

14 DESCRIPTION OF THE BIOLOGICAL AND PHYSICAL ENVIRONMENT

The proposed area for the establishment of the Project is in the natural province of the Abitibi Lowlands. This region includes a few hills, notably around Rouyn-Noranda (including the Kekeko hills). The regional climate is cold and humid continental type which results in short, hot and dry summers as well as long, cold and dry winters.

A preliminary assessment of the potential radioactivity of the materials is made using knowledge of the type of deposit being mined, the chemical and mineralogical composition of the ore or the direct detection of radioactivity using radiation detectors. The Project is unlikely to result in a change in surface radiation levels.

The hydrography is characterized by the presence of several lakes, small meandering rivers, and numerous wetlands. No major watercourse is present in the area. Most of the rivers in the area are occupied by beaver activity, which abounds in the region. The main bodies of water in the Project area include lakes Arnoux, Mackay, Hélène, Adéline, Wasa, and Chat Sauvage. Fish inventories have allowed to identify which water bodies and rivers are considered as fish habitat.

The vegetation inventories conducted in 2018 by Englobe reveal that the proposed Project area is mainly composed of deciduous and coniferous stands. The rest of the vegetation is made up of regenerating stands, wildland, logged area and plantations. The wetlands observed are mainly forested and shrub swamps, as well as forested bogs.

The species at risk listed in Schedule 1 of the *Species at Risk Act* (S-15.3) whose presence has been confirmed within the study area are the following:

- The little brown bat (endangered);
- The northern bats (endangered).

An in-depth analysis of the range of species at risk in Canada suggests that the following species are likely to be present in the study area:

- Eight species of birds: the common nightjar (threatened), the peregrine falcon (threatened), the short-eared owl (special concern), the bank swallow (threatened), the olive-sided flycatcher (threatened), the Canada warbler (threatened), the rusty blackbird (special concern) and the yellow rail (special concern);
- Two species of turtle: the wood turtle (threatened), the northern map turtle (special concern) and the snapping turtle (special concern);
- One fish species: lake sturgeon (special concern).

Map 2 from Englobe's report (2019), illustrating the inventory and characterization efforts carried out to date within the areas established for this study, is presented in Appendix A.

An inventory of residential wells used to supply drinking water to isolated residences in the area was carried out in 2012 in order to characterize the condition of these wells and the water quality (Richelieu Hydrogéologie, 2012). The inventories targeted residents of Rang des Cavaliers between the intersection of Route 117 and the eastern end of Lac Hélène, Wasamac Road, as well as Rideau Boulevard. In all, 45 water samples were taken. The following are the main results of this inventory:

- Excesses of aesthetic objectives are observed at 9 locations for iron, at 49 locations for manganese, at 12 locations for sulphides, and in one location for chlorides. Aesthetic objectives are recommendations for parameters that have an impact on the aesthetic characteristics of water (colour, odour, taste), but that have no recognized adverse effect on human health;

- Excess consumption criteria concerning the potability of the water are observed at one location for selenium (0.02 mg/L in a residential well; criteria: 0.01 mg/L), at 4 locations for lead (three out of four are residential wells (0.015 mg/L, 0.016 mg/L and 0.025 mg/L); criteria: 0.01 mg/L), and 4 locations for mercury (observation wells not intended for human consumption);
- organic contaminants of the monocyclic aromatic hydrocarbon (HAM) or polycyclic (PAH) type are generally below the detection limits or very close to them. However, two exceedances of the toluene potability criterion (observation wells not intended for human consumption) and one exceedance of benzo (a) pyrene (0.012 mg/L in a residential well; criteria: 0.01 mg/L) were observed.

15 DESCRIPTION OF THE HEALTH, SOCIAL AND ECONOMIC CONTEXT

The Project infrastructure will be located partly on private land and partly on land in the Quebec public domain. The vocation of the territory on public land is of multiple modulated use, where the use of land and resources is intended to be versatile, with modalities or rules adapted to specific environmental, landscape, cultural, social or economic conditions.

The Project site does not contain any Aboriginal territory established as a reserve. However, it is located on the ancestral territory of the Algonquin Anishinabeg Nation (Anicinabek). There is also a former Aboriginal cemetery located approximately 8 km southeast of the study site.

The economy of Abitibi-Témiscamingue is based on the exploitation and processing of natural resources. The mining industry alone provided nearly 10% of the jobs in the city of Rouyn-Noranda in 2006. The employment rate in Abitibi-Témiscamingue, estimated at 62.4% in 2017, is the third highest in Quebec.

Hunting, fishing and trapping are popular activities in the region and provide many jobs and significant economic benefits for the region. The Project site is located in free territory (no special status), in hunting area number 13, and straddling the fur animals management units (UGAF) numbers 2 and 4.

The Project site borders Highway 117, which at this location is a section of the Trans-Canada Highway. It should be noted that a railway belonging to the Ontario Northland Railway (Nipissing Central Railway Company) runs along the north side of Route 117. This railway is under federal jurisdiction.

The area has no federal designated protected areas (national parks, national wildlife areas, migratory bird sanctuaries, or national marine conservation areas).

A large recreation-conservation area occupies the territory south of the Project, the Kekeko hills. These form a territory of great wealth from an ecological and recreational tourism point of view. It is in this perspective that the City of Rouyn-Noranda has started the participatory steps to create a regional park in the Kekeko hills².

16 FINANCIAL SUPPORT

Monarch Gold Corporation is evaluating all forms and sources of funding for the Project, including the participation of a federal authority.

² <http://www.ville.rouyn-noranda.qc.ca/fr/page/collines-kekeko/>.

Monarch Gold Corporation obtained financing in March 2018 from the provincial government in the form of a share purchase from the Company for an amount equivalent to \$5 million.

17 FEDERAL TERRITORIES

No federal land is located in the Wasamac project area. No federal land will be used for the purpose of the Project.

18 JURISDICTIONS THAT HOLD POWERS, DUTIES OR FUNCTIONS IN RELATION TO AN ENVIRONMENTAL IMPACT ASSESSMENT

In order for the Wasamac mining project to be developed, various authorizations and permits will have to be acquired beforehand, notably:

- Environment and Climate Change Canada Decision Statement;
 - Decree of the Government of Quebec;
 - Various ministerial authorizations issued under the Environment Quality Act;
 - Authorization for the harmful alteration, disruption or destruction of fish habitat;
 - Listing of fish-bearing water bodies and watercourses on Schedule 2 of the MDMER;
 - Authorization for the deposit of deleterious substances into waters frequented by fish (if required) ;
 - Permit to carry out an activity affecting a species at risk;
 - Permit for vehicles used for the transport of explosives;
 - Permission to establish a water intake;
 - Sanitation certificate in industrial environment;
 - Permit for any activity involving the taking of groundwater or surface water;
 - Authorization to carry out an activity likely to modify a wildlife habitat;
 - Permits for construction and site development;
 - Approval of the redevelopment and restoration plan;
 - Public land use authorization;
 - Explosives permit, including a general permit, deposit permit and transportation permit.
-

18-1 FEDERAL GOUVERNMENT

Following the impact assessment process, Monarch Gold Corporation will proceed to the authorization requests for the construction and the exploitation of the Project with relevant federal authorities. Monarch Gold Corporation understands that the IAAC will submit a plan for the issuance of permits for the Project as required by paragraph (e) of Section 5 of the *Information and Management of Time Limits Regulations*. This plan will describe the permits, licences and authorizations required for the Project.

18-2 PROVINCIAL GOVERNMENT

The proposed mining project is listed in Section 2, Paragraph 22 of Part II of Schedule I of the *Regulation respecting the environmental impact assessment and review of certain projects* (c. Q-2, r. 23.1):

- (2) the establishment of a mine whose maximum daily capacity for extracting any other metal ore is equal to or greater than 2,000 metric tons.

The projects listed in Schedule 1 are subject to the environmental impact assessment and review procedure provided for in Subdivision 4 of Division II of Chapter IV of title I of the EQA (c. Q-2), to the extent provided therein, and must obtain an authorization from the Government.

Following the environmental assessment procedure, Monarch Gold Corporation will proceed to the authorization requests for the construction and the exploitation of the Project with provincial and municipal authorities.

In addition, the Wasamac project was selected to be part of pilot projects by the Government, under the authority of an inter-ministerial table composed of the five following: MERN, MFFP, MELCC, MAMH, and the MEI. The primary objective is to establish a viable interaction system with stakeholders and, in particular, promote the social acceptability of mining projects. The first meeting took place on December 19, 2019. Sporadic follow-ups are made with the MERN leader of the table.

19 CHANGES TO THE COMPONENTS OF THE ENVIRONMENT

Table 3 described qualitatively and briefly changes that may be caused to the components of the environment at each phase of the project. The changes can be caused by one or more sources of potential effects. The components are those that are within the legislative authority of the Parliament:

- a) Fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*;
- b) Aquatic species, as defined in subsection 2(1) of the *Species at Risk Act*;
- c) Migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*.

20 CHANGES TO FEDERAL, OTHER PROVINCIAL OR FOREIGN LANDS

The mine site would be built on the territory of the municipality of Rouyn-Noranda in the province of Quebec. No impact is anticipated on federal lands, outside the province or outside Canada.

21 IMPACT ON INDIGENOUS PEOPLES

Table 4 presents a list of the impacts that, as a result of the carrying out of the project and result from any change to the environment, may occur on natural and cultural heritage, the current use of lands and resources for traditional purposes and any structure, site or things that are of historical, archaeological, paleontological or architectural significance, based on publicly available information or as a result of any engagement undertaken with First Nations in Canada. There are currently no known or recognized historical, archaeological, paleontological or architectural sites on or near the site. However, it should be noted that a former Aboriginal cemetery is located approximately eight kilometers southeast of the study site. This list will be further refined through the ongoing engagement activities undertaken with the Indigenous peoples.

Table 3 Main Potential Changes on the Components of the Environment

Environmental Components	Project Phases	Potential Effect Sources	Potential Change
Fish, fish habitat and aquatic species at risk	Construction	<ul style="list-style-type: none"> – Site preparation – Installation of temporary and permanent infrastructure – Transport and traffic – Use and maintenance of equipment 	<ul style="list-style-type: none"> – Alteration, disruption and destruction of fish and benthic fauna habitat – Surface water quality alteration (suspended solids, accidental spills) – Change to the natural surface water flow pattern – Change in free passage – Introduction of invasive alien species – Increase in fishing pressure – Depending on the nature of the discharge: acute or chronic effects on fauna
	Operation	<ul style="list-style-type: none"> – Ore, waste rock and tailings management – Water management and treatment – Presence of mining infrastructure – Transport and traffic – Use and maintenance of equipment 	<ul style="list-style-type: none"> – Alteration, disruption and destruction of fish and benthic fauna habitat – Surface water quality alteration (suspended solids, accidental spills, effluents) – Change to the natural surface water flow pattern – Change in free passage – Introduction of invasive alien species – Increase in fishing pressure – Depending on the nature of the discharge: acute or chronic effects on fauna
	Closure	<ul style="list-style-type: none"> – Dismantling of equipments and infrastructure – Site rehabilitation and reclamation – Transport and traffic 	<ul style="list-style-type: none"> – Alteration of fish and benthic fauna habitat – Surface water quality improvement – Change in free passage – Introduction of invasive alien species – Depending on the nature of the discharge: acute or chronic effects on fauna, disturbance
Migratory birds	Construction	<ul style="list-style-type: none"> – Installation and presence of work site – Site preparation – Installation of temporary and permanent infrastructure – Transport and traffic – Use and maintenance of equipment 	<ul style="list-style-type: none"> – Habitat loss, disturbance and fragmentation – Disturbance in the behaviour of populations – Sensory disturbances (noise, vibration, light) – Risk of collisions, nest destruction or mortality – Change in habitat quality in the event of a spill – Increase in hunting pressure

Environmental Components	Project Phases	Potential Effect Sources	Potential Change
			<ul style="list-style-type: none"> Depending on the nature of the discharge: acute or chronic effects on fauna
	Operation	<ul style="list-style-type: none"> Underground mine exploitation Ore, waste rock and tailings management Water management and treatment Presence of mining infrastructure Transport and traffic Use and maintenance of equipment 	<ul style="list-style-type: none"> Disturbance in the behaviour of populations Sensory disturbances (noise, vibration, light) Risk of collisions or mortality Change in habitat quality Increase in hunting pressure Depending on the nature of the discharge: acute or chronic effects on fauna
	Closure	<ul style="list-style-type: none"> Installation and presence of worksite Dismantling of equipments and infrastructure Site rehabilitation and reclamation Transport and traffic 	<ul style="list-style-type: none"> Disturbance in the behaviour of populations Sensory disturbances (noise, vibration, light) Risk of collisions or mortality Improvement in habitat quality Depending on the nature of the discharge: acute or chronic effects on fauna

Table 4 Main Potential Impacts on Indigenous Peoples

Components	Project Phases	Potential Effect Sources	Potential Impact
Current use of the lands and resources for traditional purposes	Construction	<ul style="list-style-type: none"> – Installation and presence of worksite – Site preparation – Installation of temporary and permanent infrastructure – Transport and traffic 	<ul style="list-style-type: none"> – Loss of territory to perform traditional activities – Loss of temporary shelter (hunting camp) – Temporary disruption to traditional activities – Increased traffic of heavy vehicles and workers on local and regional roads and risk of road accidents
	Operation	<ul style="list-style-type: none"> – Presence of workers – Ore, waste rock and tailings management – Water management and treatment – Presence of mining infrastructure – Transport and traffic 	<ul style="list-style-type: none"> – Potential increase in resources and the practice of traditional activities – Permanent repercussions on land use by communities (change in the vocation of the territory) – Increased traffic of heavy vehicles and workers on local and regional roads and risk of road accidents
	Closure	<ul style="list-style-type: none"> – Installation and presence of work site – Dismantling of equipments and infrastructure – Site rehabilitation and reclamation – Transport and traffic 	<ul style="list-style-type: none"> – Temporary disruption to traditional activities – Reuse and reappropriation of mine site for traditional activities
Natural and cultural heritage	Construction	<ul style="list-style-type: none"> – Site preparation – Installation of temporary and permanent infrastructure 	<ul style="list-style-type: none"> – Unearthing archeological remains – Potentials alteration of sites and cultural, historical and archaeological places of interest
	Operation	No potential impact is expected for this component	– No potential impact is expected
	Closure	No potential impact is expected for this component	– No potential impact is expected

22 CHANGES TO HEALTH, SOCIAL OR ECONOMIC CONDITIONS OF INDIGENOUS PEOPLES

Table 5 list changes that, as a result of developing the project, may occur to the health, social or economic conditions of Indigenous peoples, based on information that is currently available. This list will be further refined through the ongoing engagement activities undertaken with the Indigenous peoples.

23 GREENHOUSE GAS EMISSIONS

Greenhouse gases (GHG) will be emitted at all phases of the Project (construction, operation, and closure). During the construction and closure phases, the main direct sources of emissions will come from clearing and mobile combustion. The exploitation phase will produce direct emission from mobile and stationary combustion, industrial process, venting and indirect emissions associated with the acquisition of electricity from the grid.

Based on the information available to date, GHG emissions can only be estimated for the exploitation phase. GHG emission estimates are presented on an annual basis:

- Direct emissions: 594 tCO₂Eq / year
- Indirect emissions: 170 tCO₂Eq / year

Thus, on a preliminary basis, the Project could emit approximately 764 tCO₂Eq of GHG on an annual basis during the operational phase.

The quantification for each year of the life of the Project and for all phases (construction, operation, closure) will continue and will be detailed in the environmental impact study, in accordance with the version of the Strategic Assessment of Climate Change that will be in effect at that time.

24 WASTE AND EMISSIONS

24-1 RESIDUAL MATERIALS MANAGEMENT

The management of residual materials will promote the implementation of practices based on 4Rs, meaning prioritizing the reduction, reuse, recycling and recovery of residual materials. Residual materials will be managed in accordance with applicable laws and regulations. The main residual materials produced are as follows:

- Domestic solid waste (paper, cardboard, plastic, glass, food waste);
- Dry residual materials (building material, wood, metal, packaging, etc.).

Table 5 Main Potential Changes on Health, Social or Economic Conditions of Indigenous Peoples

Components	Project Phases	Potential Effect Sources	Potential Change
Socio-economic conditions	Construction	<ul style="list-style-type: none"> – Purchase of goods, services and materials – Workforce 	<ul style="list-style-type: none"> – Business opportunities for regional companies – Tax revenue – Creation or job maintenance in the region
	Operation	<ul style="list-style-type: none"> – Purchase of goods, services, and materials – Workforce 	<ul style="list-style-type: none"> – Business opportunities for regional companies – Tax revenue – Creation or job maintenance in the region
	Closure	<ul style="list-style-type: none"> – Site rehabilitation and reclamation – Workforce 	<ul style="list-style-type: none"> – Decreasing demand for goods and services – Gradual reduction of mine workforce
Health conditions	Construction	<ul style="list-style-type: none"> – Installation and presence of work site – Site preparation – Installation of temporary and permanent infrastructure – Underground development for the installation of the ore/waste rock handling system and underground services – Transport and traffic – Purchase of goods, services and materials – Workforce 	<ul style="list-style-type: none"> – Concerns regarding risk to human health (air emission, groundwater quality, noise, stress) – Decreased sense of security for road users and increased risk of road accidents – Issues with the integration of Indigenous workers – Risk of tension between Indigenous peoples and the local population
	Operation	<ul style="list-style-type: none"> – Underground mine exploitation – Ore, waste rock and tailings management – Water management and treatment – Management of hazardous and residual materials – Presence of mining infrastructure – Transport and traffic – Purchase of goods, services and materials – Workforce 	<ul style="list-style-type: none"> – Concerns regarding risk to human health (air emission, groundwater quality, noise, stress) – Decreased sense of security for road users and increased risk of road accidents – Issues with the integration of Indigenous workers – Risk of tension between Indigenous peoples and the local population
	Closure	<ul style="list-style-type: none"> – Dismantling of equipments and infrastructure – Mine flooding – Site rehabilitation and reclamation – Management of hazardous and residual materials 	<ul style="list-style-type: none"> – Concerns regarding risk to human health (air emission, groundwater quality, noise, stress) – Reuse and reappropriation of mine site for traditional activities (sense of land reappropriation)

24-2 RESIDUAL HAZARDOUS MATERIALS MANAGEMENT

The management of hazardous waste is regulated, and the disposal of these products will be in accordance with the acts and regulations in force. A management plan will be established in a later phase of the Project. The main residual hazardous materials produced are:

- Used oils from fixed and mobile machinery;
- Used grease from stationary and mobile machinery;
- Aerosol cans;
- Antifreeze products and brake and hydraulic fluids;
- Solvents;
- Fluorescent tubes;
- Sludge from a water-oil separator or sludge containing metals;
- Batteries and other storage cells;
- Oil filters;
- Solvents used for cleaning mechanical parts;
- Empty containers of explosives.

Residual hazardous materials also include all materials or objects assimilated to a hazardous material (e.g., containers, filters and filter materials).

24-3 AIR EMISSIONS

During the construction phase and operation phase, the Project will contribute to:

- Emissions of dust;
- Air emissions (mainly GHG and SO₂) from the machinery and equipment used.

An air quality management and dust control plan will be established in a later phase of the Project.

24-4 LIQUID DISCHARGE

All mining wastewater will be reused as much as possible in operations.

Excess water will be routed to water treatment facilities before being released to the environment through a final effluent. The Project includes two final effluents, one for the surface infrastructure sector and the other for the concentrator residue accumulation area. The volume of water released to the environment after treatment and monitoring was assessed at 73,918 m³/year for the effluent from the surface infrastructure sector and 471,472 m³/year for the effluent from the concentrator residue accumulation area.

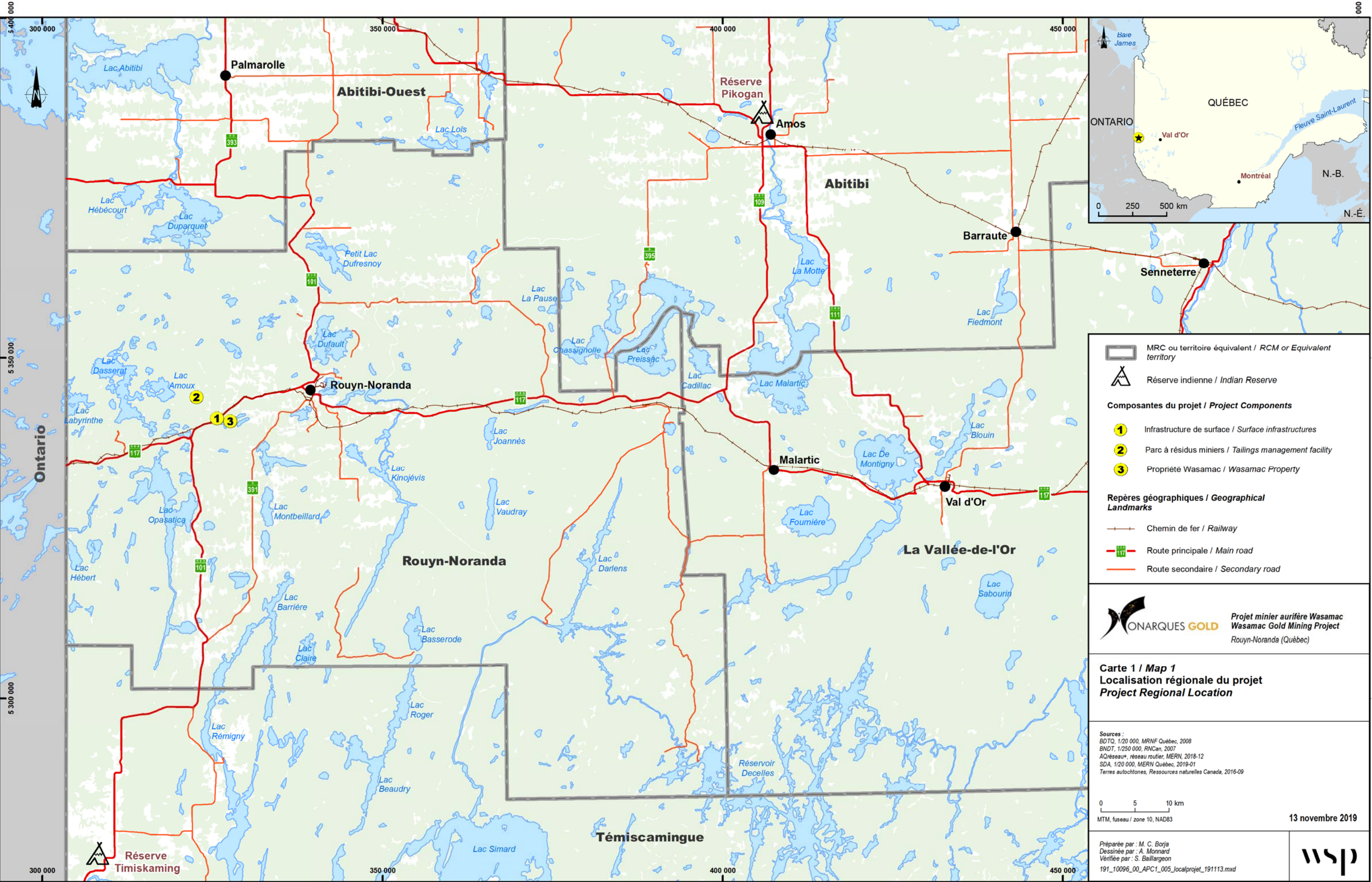
The Project will also include a discharge of domestic wastewater (treated water) in accordance with the MELCC best practices guide.

24-5 CONTAMINATED SOIL MANAGEMENT

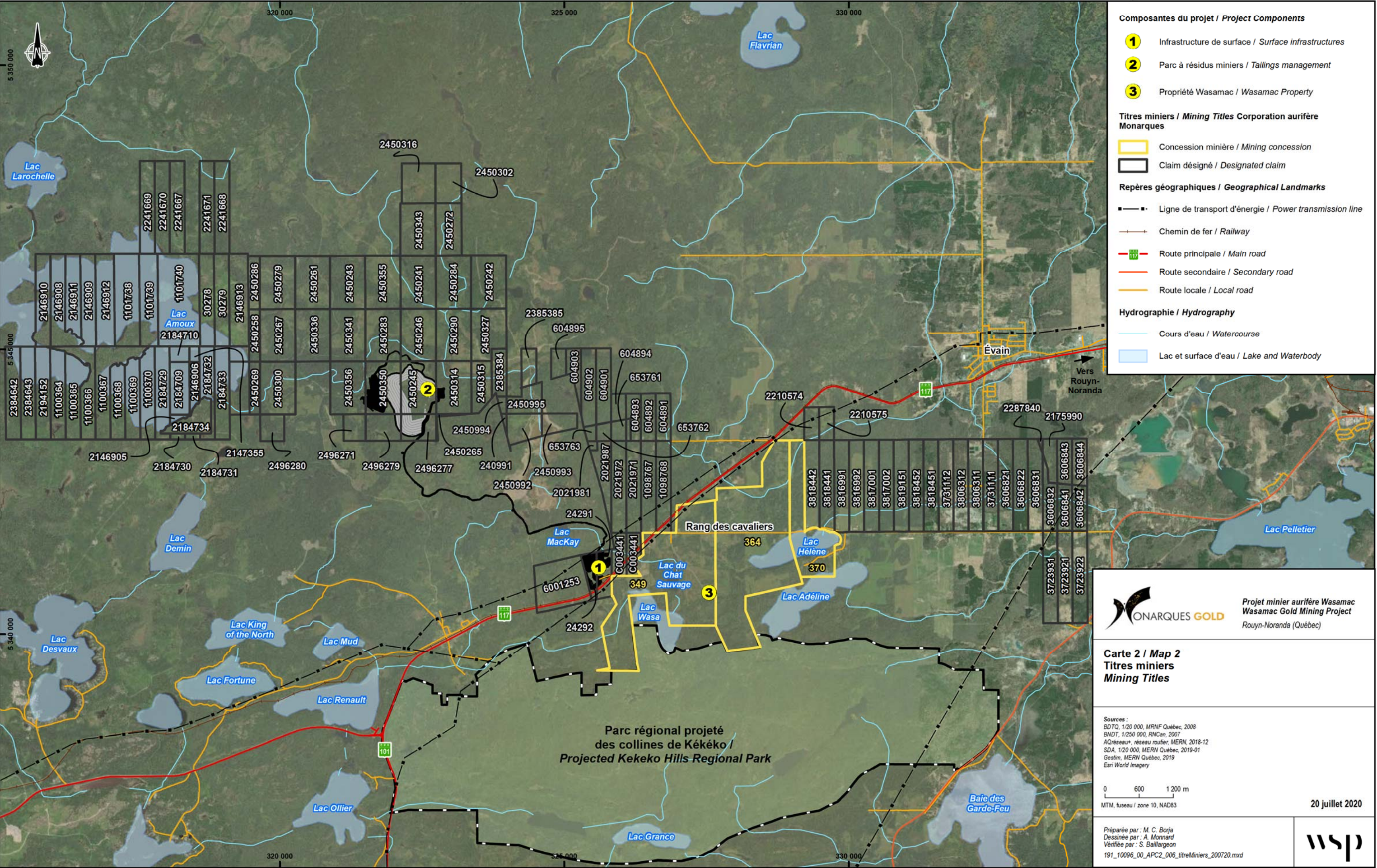
Road transportation, heavy machinery traffic, machinery operation, the use of fueling sites and the temporary storage or handling of residual and hazardous materials will represent potential sources of accidental spills.

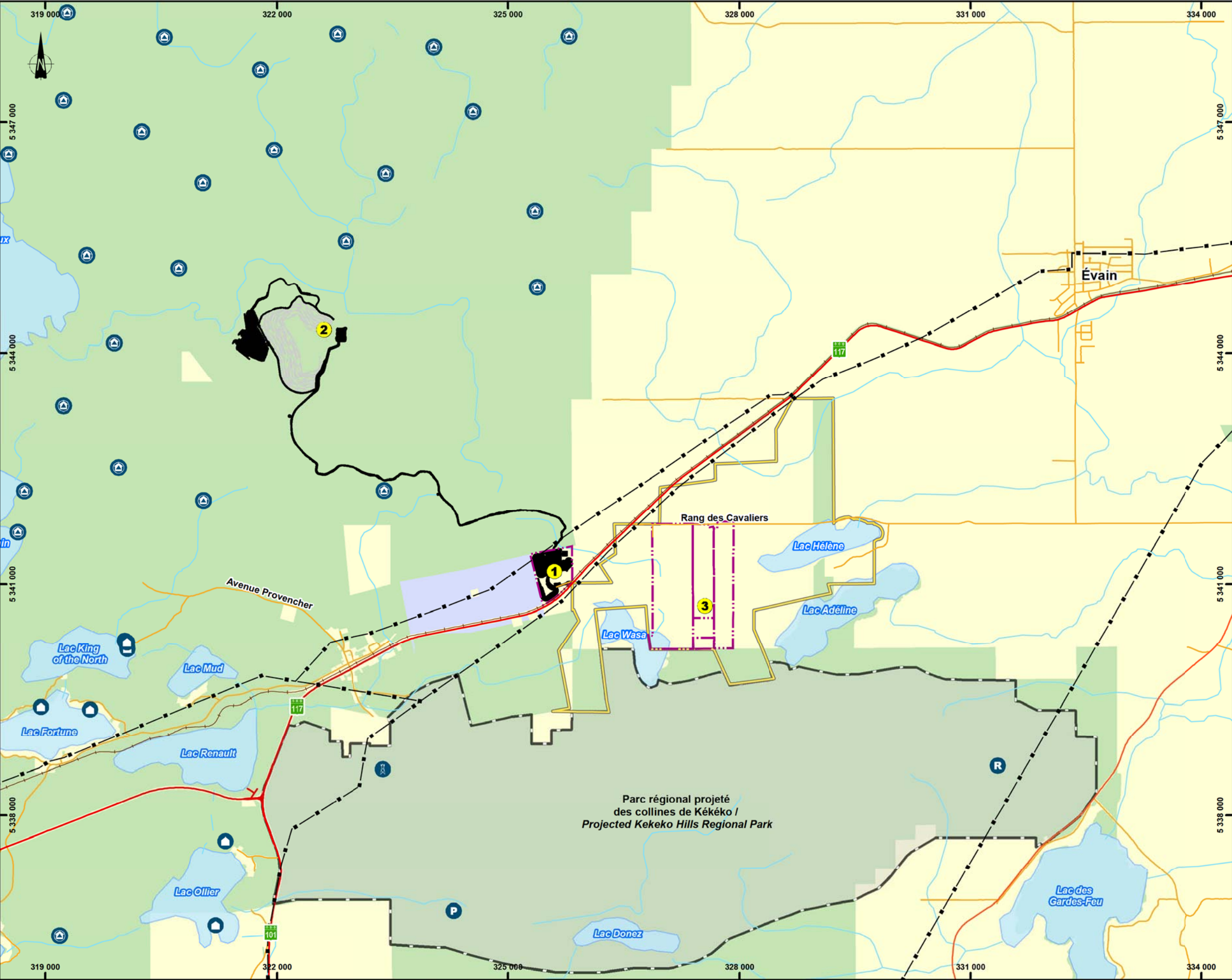
Appropriate work practices and an emergency measures plan will be put in place to avoid accidental spills and in the event of such a spill, contaminated soils will be recovered and managed in accordance with the regulations in force.

MAPS



La précision des limites et les mesures montrées sur ce document ne doivent pas servir à des fins d'ingénierie ou de délimitation foncière. Aucune analyse foncière n'a été effectuée par un arpenteur-géomètre.
Boundaries and measurements shown on this document must not be used for engineering or land survey delineation. A land register analysis conducted by a land surveyor was not undertaken.





Composantes du projet / Project Components

- 1** Infrastructure de surface / Surface infrastructures
- 2** Parc à résidus miniers / Tailings management facility
- 3** Propriété Wasamac / Wasamac Property

Tenure / Tenure

- Limite concession minière / Mining concession limit
- Limite de lots Monarques / Monarques lot limit
- Publique / Public
- Privé / Private
- Multiple / Multiple

Baux en terres publiques / Leases on public lands


- Activités récréatives, sportives ou éducatives pour un usage communautaire sans but lucratif / Recreational, sports or educational activities for non-profit community use
- Abri sommaire en forêt / Forest shelter
- Intérêts privés complémentaires ou accessoires à un usage principal / Complementary private interests or accessories for a main use
- Tour de télécommunication / Telecommunication tower
- Villégiature / Resort

Repères géographiques / Geographical Landmarks

- Ligne de transport d'énergie / Power transmission line
- Chemin de fer / Railway
- Route principale / Main road
- Route secondaire / Secondary road
- Route Locale / Local Road

Hydrographie / Hydrography

- Cours d'eau / Watercourse
- Lac et surface d'eau / Lake and Waterbody

 **Projet minier aurifère Wasamac**
Wasamac Gold Mining Project
Rouyn-Noranda (Québec)


Carte 3 / Map 3
Tenure des terres
Land Tenure

Sources :
BDTQ, 1/20 000, MRNF Québec, 2008
BNDT, 1/250 000, RNCAN, 2007
AQRéseau*, réseau routier, MERN, 2018-12
SDA, 1/20 000, MERN Québec, 2019-01
Tenure, FFP Québec, 2019-03
Baux villégiature, MERN Québec, 2019

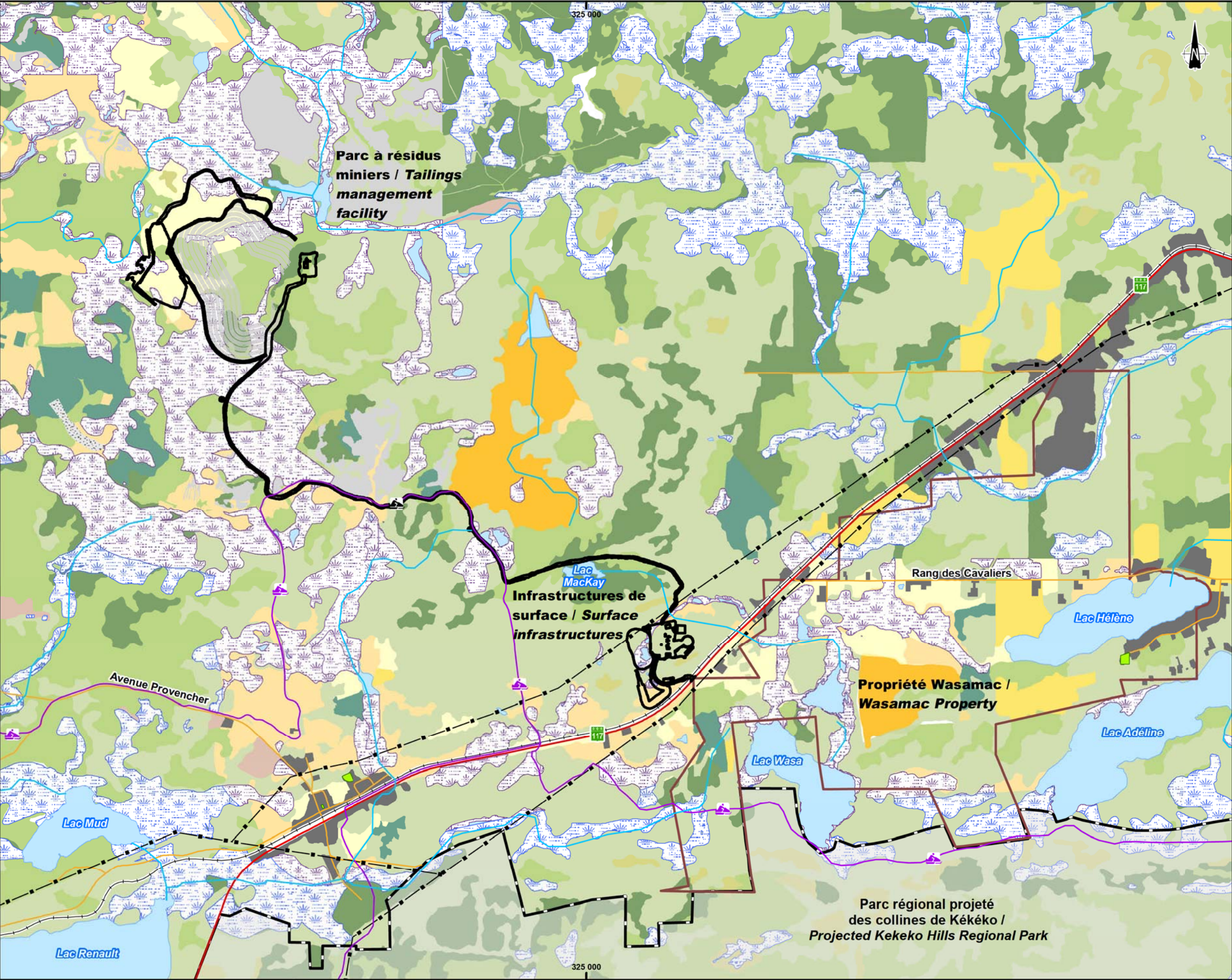
0 0,5 1 km
MTM, fuseau / zone 10, NAD83

13 novembre 2019

Préparée par : M. C. Borja
Dessinée par : A. Monnard
Vérifiée par : S. Baillargeon
191_10096_00_APC3_007_tenureTerres_191113.mxd



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Boundaries and measurements shown on this document must not be used for engineering or land survey delineation. A land register analysis conducted by a land surveyor was not undertaken.



Milieux humides / Wetlands

Données existantes / Existing data

Confirmé par inventaire / Confirmed by inventory

Milieux terrestres / Terrestrial areas

Peuplement feuillu / Deciduous stand

Peuplement mélangé / Mixed stand

Peuplement résineux / Coniferous stand

Dénudé sec / Dry barren area

Peuplement en régénération / Regeneration stand

Friche / Wildland

Plantation / Plantation

Coupe / Cut

Autres milieux / Other areas

Terre agricole / Agricultural land

Site minier restauré / Restored mining site

Gravière / Gravel pit

Anthropique / Anthropogenic

Milieu humain / Human environment

Milieu bâti / Constructed area

Parc et espace vert / Park and green space

Hydrographie / Hydrography

Cours d'eau / Watercourse

Lac et surface d'eau / Lake and Waterbody

Repères géographiques / Geographical Landmarks

Ligne de transport d'énergie / Power transmission line

Chemin de fer / Railway

Route principale / Main road

Route secondaire / Secondary road

Route Locale / Local road

Sentier de motoneige / Snowmobile trail

Projet minier aurifère Wasamac
Wasamac Gold Mining Project
Rouyn-Noranda (Québec)

Carte 4 / Map 4
Principales composantes du milieu
Main Environment Components

Sources :
BDTQ, 1/20 000, MRNF Québec, 2008
BNDT, 1/250 000, RNCAN, 2007
AQrèseau, réseau routier, MERN Québec, 2018-12
SDA, 1/20 000, MERN Québec, 2019-01
Milieux humides, Canards illimités, MELCC,
Milieux forestiers, MFFP Québec, 2019-05
Milieux humides, inventaire Englobe, 2018
Parcs et espaces verts, Ville de Rouyn-Noranda, 2014

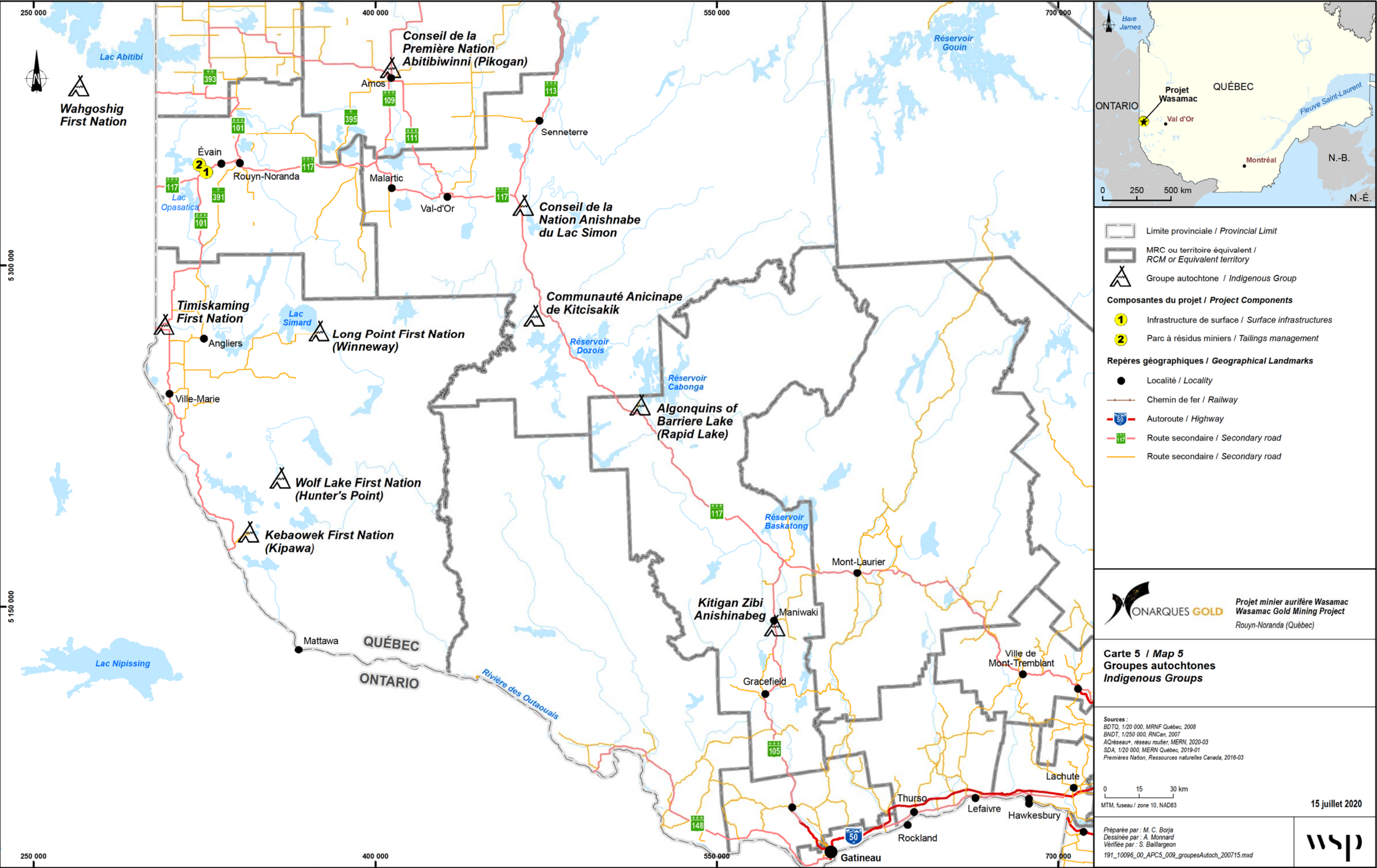
0 300 600 m

MTM, fuseau / zone 10, NAD83

13 novembre 2019

Préparée par : M. C. Borja
Dessinée par : A. Monnard
Vérifiée par : S. Baillargeon
191_10096_00_APC4_008_compMilieu_191113.mxd

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Boundaries and measurements shown on this document must not be used for engineering or land survey delineation. A land register analysis conducted by a land surveyor was not undertaken.

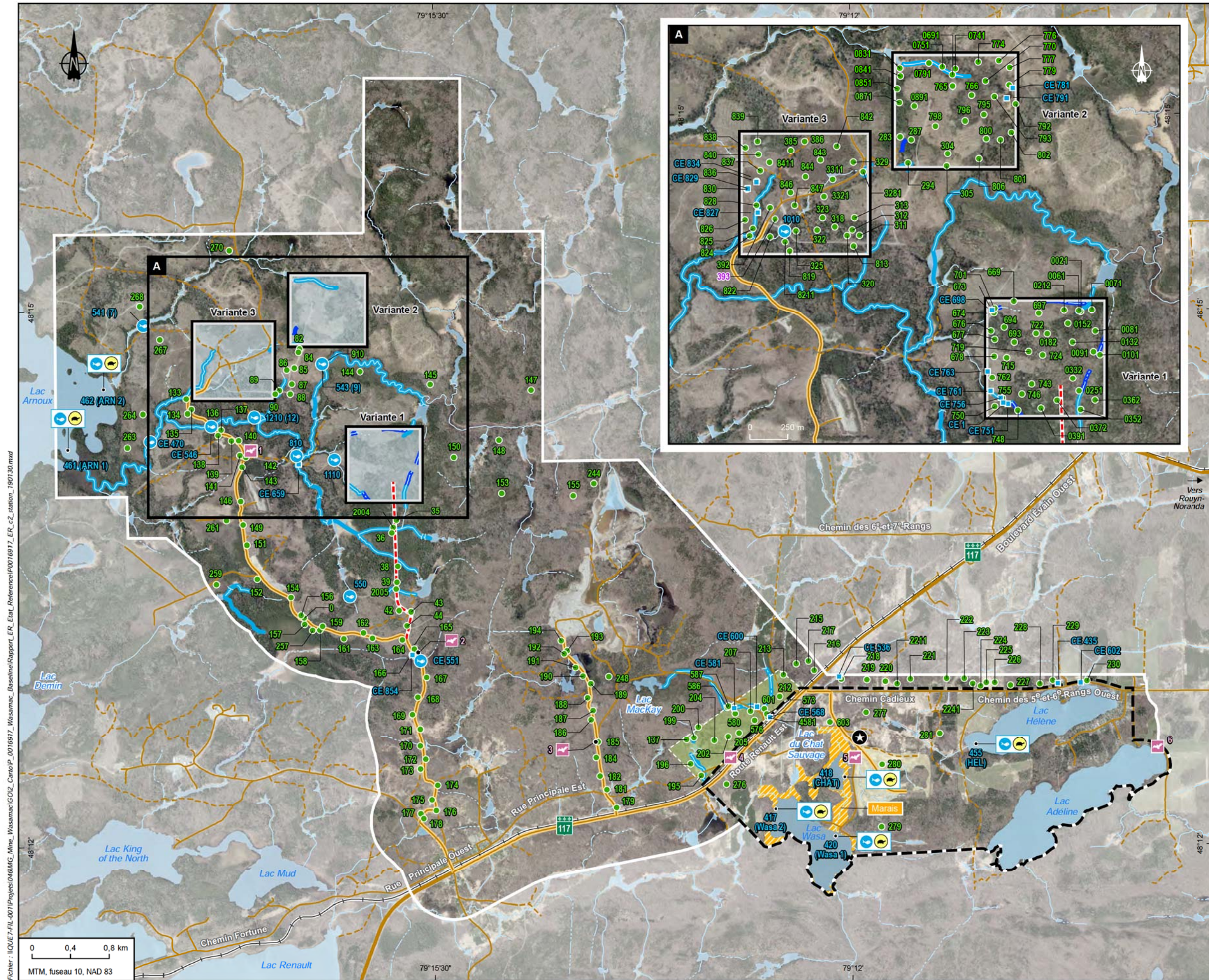


La précision des limites et les mesures montrées sur ce document ne doivent pas servir à des fins d'ingénierie ou de délimitation foncière. Aucune analyse foncière n'a été effectuée par un arpenteur-géomètre.
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APPENDIX

A

**MAP 2
(ENGLOBE, 2019)**



Inventaires

- 770 Numéro de station (couleur selon station)
- Station d'inventaire de la végétation
- Station de caractérisation de l'habitat aquatique
- Station de pêche et de caractérisation de l'habitat aquatique
- Station d'inventaire de tortues
- Station d'inventaire de chiroptères
- Cours d'eau permanent inventorié
- Cours d'eau intermittent inventorié

Composantes de projet

- Rampe d'accès
- Chemin d'accès projeté
- Zone d'étude
- Site de l'usine de traitement projeté
- Parc à résidus projeté
- Site du gisement

Infrastructures existantes

- Chemin principal
- Chemin d'accès
- Chemin secondaire
- Chemin non carrossable
- Voie ferrée

Autres

- Cours d'eau permanent
- Cours d'eau intermittent

Monarques Gold Corp.
Projet de mine d'or Wasamac
État de référence

Carte 2

Stations d'inventaire

Sources :

Orthophoto, imagery, janvier 2015
BDTQ, 1 : 20 000, MRNF 2007
Site du gisement, Aecom 2013

Inventaires : Englobe, août 2018
Cartographie : Englobe

Janvier 2019

Chargé de projet : C. Lalumière

Date : 2019-01-30

Préparé : P.C. Gélinas	Dessiné : L.Savoie	Vérifié : C. Lalumière						
Serv. Maître	Projet	Otp	Disc.	Type	N° dessin	Rév.		
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