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# FENELON MINING PROJECT

PRELIMINARY INFORMATION

NOVEMBER 2016



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## PRELIMINARY INFORMATION

**Wallbridge Mining Company Limited**

### **Report**

Project no: 161-08442-00

Date: November 2016



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### **Official Reference:**

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WSP 2014. *Fenelon Mining Project*. Report produced for Wallbridge Mining Company Limited.  
17 p. and appendices.





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# 1 GENERAL INFORMATION

This document presents the preliminary information required by the ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) under Section 156 of the Environment Quality Act (EQA). As this project is located on territory governed by the James Bay and Northern Québec Agreement (JBNQA), the Evaluating Committee (COMEV) will be responsible for examining this preliminary information. Then on the basis of this information, the COMEV will make a recommendation whether or not to submit the project to the assessment and review procedure to determine impacts on the environment and social impact set forth in Chapter II of the Environment Quality Act.

If the project is subject to regulation, the COMEV will draft a plan governing the scope of the environmental impact assessment to be conducted and will recommend to the Provincial Administrator to forward it to the proponent of the project. If the project is not submitted to the procedure, the COMEV must draft a notice of exemption.

The Review Committee (COMEX) will analyze the project and may request additional research or studies from the project proponent. The COMEX can also publicly consult the communities affected by the project. The Committee then recommends or refuses to authorize the project.

Founded in Lively near Sudbury, Ontario, Wallbridge Mining Company Limited (Wallbridge) is a junior mining company with projects in Ontario and Québec. In the Province of Québec, Wallbridge intends to operate an underground mine on the territory of Eeyou Istchee Baie-James, in the Nord-du-Québec administrative region, in order to extract gold ore at a rate of 300 metric tons per day. The ore will come from the Fenelon property and will be processed at a plant located in Abitibi-Témiscamingue.

## 1.1 PROJECT PROPONENT

Name of Proponent: Wallbridge Mining Company Limited

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## 1.2 CONSULTANT RETAINED BY THE PROJECT PROPONENT

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The resolution of the Board of Directors authorizing the signatory to submit the application on behalf of the proponent is attached in Appendix A.

### 1.3 PROJECT TITLE

The project title is '**Fenelon Mining Project**'.

The Fenelon project is a gold mining project, which is 100% owned by Wallbridge.

### 1.4 PROJECT OBJECTIVES AND JUSTIFICATION

The discovery of the gold deposit on the Fenelon property dates back to 1994. In 2001 and 2004, development work allowed bulk sampling to be carried out from both a small open-pit mining operation and from an underground mining operation. Some infrastructures, erected on the site during this work, are still present. However, access to the deposit is no longer possible because these infrastructures have since been flooded.

The Fenelon property has demonstrated potential to harbor high-grade mesothermal gold mineralization. The southern portion of the property overlaps the Sunday Lake deformation zone, host of the multi-million ounce gold deposit. The proximity of regional auriferous deformation zones of this nature is the key to the discovery of gold mines throughout Abitibi. A number of occurrences are known from drilling on the property, and the discovery potential remains high.

According to information updates on the project, Wallbridge noted that the Fenelon Mine Project would involve the extraction of gold resources at a rate of 300 metric tons per day of ore, extracted by ramp. The life of the mine is estimated to be approximately 9 to 12 months. Facilities already in place by previous exploration activities will be used 'as is' or will be updated; some other facilities will have to be built.

Only gold mineral will be extracted from this site. In addition to the delineated deposit, the Fenelon property contains numerous sectors where gold showings have been discovered by previous surveys. These areas could eventually, with additional exploration work, become other exploitable deposits and extend the life of mine operations.

The economic profitability of the Fenelon project is made possible by use of the existing Richmond Mines' Camflo mill for processing the ore.

### 1.5 PROJECT LOCATION

As shown on Figure B-1 of Appendix B, the Fenelon Mining Project is located in the province of Québec, in the territory of Eeyou Istchee Baie-James, in the Nord-du-Québec administrative region, on Category III lands, that is, public lands forming part of the domain of the State.

The site is located in the Townships Fenelon, Jérémie, Caumont and Gaudet in Québec (Latitude 50° 0 '38.13' 'N, Longitude 78° 37' 6.51 " W), along the eastern segment of the Sunday / Detour Lake deformation zone. It is approximately 140 km north of La Sarre (Abitibi-Témiscamingue) and 75 km northwest of Matagami (Nord-du-Québec). An all-weather road provides access to the property where a camp and complete facilities have been established in the past.

Pikogan is an Algonquin First Nations reserve located more than 160 km south-southeast of the project, while the Waskaganish and Waswanipi Cree communities are located more than 160 km to the north and more than 190 km to the east of the project. The project is within the James Bay boundaries. The territory is used by both Algonquin and Cree families, their trap lines being overlapped in this area.

## **1.6 LAND OWNERSHIP**

The study area is 100% located on Crown land.

## **1.7 MINING RIGHTS**

The Project site is under mining lease (BM 864). Fenelon Extension: 56 claims (1,401 ha); Gaudet A group: 14 claims (224 ha); and a group of five claims covering an area of approximately 8,557 hectares (Fenelon A: 434 claims; Gaudet C: 6 claims (96 ha)).

## 2 PROJECT INFORMATION

### 2.1 HISTORY OF EXPLORATION AND DEVELOPMENT WORK

The mining history of the Fenelon project area is relatively recent. Exploration started in 1984, when the Department of Natural Resources carried out airborne surveys of the area. It should be noted that this area was very inaccessible before the discovery of, and production at, the Selbaie mine, located 35 km southwest of the site.

First drilling on the Fenelon property took place in 1994. In 2001, a 13,835 ton bulk sample mined from a small open pit and test milled at the Camflo mill in Malartic, recovered 132,039 grams of gold or 9.84 g/t with a calculated recovery rate of 97%. In 2004, a second bulk sample of 8,169 tons, mined underground and also milled at Camflo, recovered 107,739 grams of gold or 13.19 g/t. The owner at that time had begun the development of the site at the same time as the exploration and development work. The open pit and underground workings are currently flooded. Figure 2.1 shows the current state of the site.

In October 2016, Wallbridge officially acquired the site and now wishes to begin a drilling campaign to delineate the indicated resources for the development of technical studies.

**Figure 2.1 Current State of the Fenelon Site**



Source: Satellite Imagery ESRI World Imagery



## 2.2 DESCRIPTION OF THE PROJECT AND ALTERNATIVES UNDER STUDY

The information used for the project description is largely extracted from the Environmental Impact Study that was submitted in 2004 by International Taurus Inc. Documents related to bulk sampling requests, restoration program, documentation required to obtain and maintain the mining lease as well as various site inspection reports were also consulted to describe this mining project taken over by Wallbridge.

### 2.2.1 PRE-PRODUCTION PHASE

Most of the surface and mining infrastructures were built during the Exploration and Development phases in the early 2000s. Access roads, earthworks, deforestation and the open pit were developed during the first bulk sampling. The underground ramp and the majority of the surface infrastructures were developed during the second bulk sampling. After completion of the second bulk sampling, all services ceased and the buildings were dismantled. Only the garage is still present on the site, the latter serves in particular to house drilling cores. The mining camp, located 6 km southeast of the Fenelon property, is also available.

The following is a list of the main facilities found on site, as shown on Figure B-2 of Appendix B:

- A construction pad, using material from a gravel pit on the Joutel-Selbaie road, allowed the installation of construction trailers, a garage (still present) and a map library.
- In the garage, a dinette was installed as was an electric toilet. The garage is equipped with an oil and grease recovery unit for sewage. A parking area for rolling stock and ore storage is also present on this surface.
- Electric power generating equipment consisting of a 1,500 kW facility is located to the east of the garage.
- A ventilation and boiler system consisting of a 30-inch 50,000 CFM fan, and a propane gas heating system.
- The pipelines at the site include one 2-inch steel pipe for domestic water and a second one for compressed air between the ramp gate and the surface garage. Diesel power lines for stationary equipment (generator, compressor) and propane for heating the mine are also present.
- A stockpile of loose deposits (overburden) is located at the end of a road that connects the site to the pit. It currently contains 232,000 m<sup>3</sup> of material, separated according to their nature (organic soil, till, clay). The overburden stockpile currently covers an area of 8.7 hectares.
- A tailings pile containing approximately 52,000 m<sup>3</sup> of rock.
- A road on the tailing pile was built of mining waste rock to install the two explosive magazines.
- A peripheral path and a berm surround the top of the pit.
- A diversion ditch located 30 to 80 m from the road was designed to collect runoff before it reaches the pit. The ditch was extended 800 m to the southwest where it flows into a swamp, 700 m before reaching the intermittent creek tributary to Samson North Creek. The difference between the marsh and the perimeter of the pit is 3 m.

- A settling pond formed in a natural cavity in the bedrock at the bottom of the pit allowed mine water to be pumped in before being transferred to the sedimentation basin, about 1,000 m<sup>3</sup> (30 m in length X 20 m in width X 1.8 m deep), dug to the west of the pit in a clay deposit. At the outlet of the basin, a "V" weir was installed to measure the flow of water discharged into the environment and to facilitate sampling.
- A 15-person camp area was set up 6 km south-east of the pit. Telecommunication services (telephone, internet, fax) and sanitary services (drinking water wells, septic tanks and sewage fields) are still found there.

Most of these facilities will have to be rehabilitated, expanded, or simply rebuilt. Wallbridge is planning to construct a mining camp 1 km north of the pit. The proposed mining camp would consist of the following: a 50-person dormitory; kitchen facilities; a 30-person dry facility; a recreation center; water supply and treatment system; a wastewater treatment facility; and an office complex.

No borrow pits would be opened on the Fenelon property during the operation of the mine.

A permanent workshop will be established and operated by a mining contractor. No new mining infrastructures, other than the existing ones, will be required for the operation of the mine.

During dewatering, the sedimentation pond for water treatment will have to be expanded. Then, as the dewatering of the mine takes place, the rehabilitation works of the current ramp and the development of the different levels can be carried out. The discharged water will be monitored to meet the final effluent discharge standards of Directive 019 of the Mining industry (2012) (hereinafter Directive 019 (2012).) A treatment unit will be installed.

Underground workings will include an extension of the ramp to 5141 (currently at 5195). Ventilation raises will be added. They will be equipped with ladders and will allow access to outdoor exits on the surface.

Since the ore will be treated off site, the Selbaie road will require minor improvements, while the road linking the Fenelon mining camp to Selbaie Road (5.3 km) will need to be redesigned. Maintenance of these roads will also be required throughout the operation of the mine.

## 2.2.2 MINE OPERATION PHASE

The project consists of underground mining (with a single ramp access to a depth of 100 meters) of 97,600 tons of gold ore at a rate of 300 metric tons per day, 7 days a week, on a 24-hour per day basis, and 365 days per year. The life of Fenelon mine is estimated to be between 9 and 12 months.

As determined in 2004, the ore will not be processed on site. Rather, it will be transported by truck to the Camflo mill owned by Richmond Mines and located in Malartic. This plant has all the facilities and permits required to process the ore and the residues generated by the process. The Fenelon ore will borrow the various circuits of the plant, the grinding stage (semi-autogenous mill and ball mill) followed by a gravimetric gold recovery circuit and flotation of a sulfide concentrate containing gold and copper. The gravimetric concentrate will be poured into a gold ingot at the refinery.

The mining method will be "longhole stoping". Access to the ore will be through the ramp and separate levels of 18 m each. Sills will be constructed for the production and disposal of the ore. The completed sites will be backfilled with the available waste rock. Three different types of explosives will be used for these mining operations, and the required quantity is 0.85 pounds per ton of rock. These products will not be manufactured locally. Blasting is not planned on the surface.

Excavated material will be transported to the surface by 30-ton underground trucks. Once crushed, the ore will be temporarily stored on a 12,500 tons stockpile pad that will contain an average of 1,500 metric ton of reserve at the site, except during the thaw period. The monthly tractor-trailer transportation of ore to the processing plant will be 7,500 to 15,000 metric tons.

Table 2.1 presents a preliminary list of equipment that will be required for the underground operation at Fenelon Mine.

**Table 2.1 Mining Equipment for Underground Operation at Fenelon Mine**

Equipment*	Function	Volume (capacity)
Truck	Transportation of equipment	30 tonnes
Excavator	Loading of material	To be determined
Loader	Loading of material	To be determined
Percussion drill	Drilling of rock and other frozen material	Not applicable
Grader	Road maintenance	Not applicable
Fuel truck	Refueling of equipment	To be determined
Wheeled excavator with pneumatic hammer	Fragmentation of off-scale rock blocks and large rocks	Not applicable
Tractor trailer	Transportation of ore the Camflo mill in Malartic	To be determined

\* Equipment may vary depending on the contractor who will carry out the work.

Geochemical analyses were carried out on the waste rock and ore. Six samples of drillcore composite rock samples representing the wall and roof units of the mineralized zones, plus one other sample, were analyzed for their sulphur content and their acid-generating potential. According to the results, six samples out of seven have no acid-generating potential. A sample would potentially be an acid generator, but no kinetic testing was performed to confirm this potential.

Eight leach tests were performed on the waste rock. When compared with the current standards of Directive 019 (2012) and the Response Guide - Soil Protection and Remediation of Contaminated Sites (MDDELCC, 2016), the leachate produced meets the resurgence criteria in surface waters and those in Directive 019. However, certain parameters of Directive 019 have not been verified.

Sterile rock will be stockpiled. The amount of tailings produced during the operation is estimated at 66,000 tons, some of which will be used to backfill the ramp site and to secure the slopes of the existing pit.

Two (2) ore samples were tested by cyanidation releases (recovered from preliminary flotation and cyanidation tests in 1997): one from a composite sample, and one from the first bulk sampling. Finally nine (9) samples taken from the stope faces and covering the entire width of the mineralized zone were analyzed to determine their acid-generating potential. The sample from the first bulk sampling would potentially be an acid generator. No kinetic tests have been carried out to confirm this potential.

Four (4) leaching trials were conducted on the ore. When compared with the current standards of Directive 019 (2012) and the Response Guide - Soil Protection and Remediation of Contaminated Sites (MDDELCC, 2016), the leachate produced meets the resurgence criteria in surface waters and those of Directive 019. However, certain parameters of Directive 019 have not been verified.

No overburden will be moved during operation of the mine. This material has already been moved and is currently stored on the designated stockpile.

The rate of extraction of ore and rock from the Fenelon mine will depend on a number of factors, including ramp level, geology, and mining cycle.

The final effluent water will be sampled according to the frequency established in Directive 019 (2012) and will have to meet the standards for all parameters. A treatment unit will be installed.

The storage and disposal of residual materials, fuel, and hazardous materials will be carried out in accordance with current regulations. A 1,000-litre used oil container will be located in the garage and will be regularly emptied by a specialized company.

Explosives containers will be burned daily on site, in an approved incinerator, in accordance with current regulations.

### 2.2.3 SITE CLOSURE AND RESTORATION PHASE

In accordance with the Mining Act, a closure and restoration plan will be submitted to MERN to obtain mining rights.

The restoration work will be carried out in accordance with the applicable rules of the Guide and the preparation of the plan and general requirements for restoration of mining sites in Québec (MNR and DEF, 1997), Directive 019 (2012). Other applicable provisions such as the Soil Protection and Contaminated Sites Rehabilitation Policy and the Land Protection and Rehabilitation Regulations (RSQ c.r.37) will also be followed.

The main objective of the mining restoration is to return the site to a state acceptable to the community. The protection, rehabilitation and restoration measures that will be presented will aim to restore the future mining site to a satisfactory state, that is to say:

1. Eliminate unacceptable health hazards and ensure public safety;
2. Limit the production and circulation of substances that could damage the receiving environment and, in the long-term, try to eliminate maintenance and monitoring;
3. Restore the site to a condition in which it is visually acceptable to the community;
4. Reclaim the areas where infrastructures are located (excluding the accumulation areas) for future use.

The waste rock and tailings piles will be covered by the organic material to facilitate a rapid resumption of vegetation. The waste rock will not be used as a backfill material elsewhere than at the mine site because the geographic location away from the urban centers does not allow for their upgrading.

Site restoration will begin at the end of the project. Neither the waste rock nor the host rock produces acidity. At project closure, the pit will flood and will create a new wetland. The excess water accumulation will flow towards the Samson River.

The final effluent water will be sampled according to the frequency established in Directive 019 (2012) and will have to meet the standards for all parameters. If the water does not meet these standards, a treatment unit will be installed and operated as long as required.

The buildings will be dismantled and access to the mine will be secured.

A revised restoration plan, according to current standards, will be prepared and submitted to MERN according to the modalities established by this ministry. Wallbridge is committed to restore the entire site, including areas affected by bulk sampling activities.

# 3 ENVIRONMENTAL COMPONENTS AND MAIN CONSTRAINTS TO PROJECT IMPLEMENTATION

As stated above, the Fenelon project is located on the territory of Eeyou Istchee Baie-James, in the Nord-du-Québec administrative region, on Category III lands, that is, on public lands where Part of the domain of the State.

A study area has been defined for the purpose of the preliminary description of the environment of insertion and analysis of the potential impacts of the project on the environment. This area is based on the boundaries of the watershed in which the project is located. This study area was also used to describe and assess impacts on traditional land and resource use by the Native peoples involved in the project.

Finally, the description of the socio-economic profile considers the entire territory of Eeyou Istchee Baie-James.

The information is mostly extracted from the Environmental Impact Study (including a short excerpt from the archaeological study of Archéo-08) which was submitted in 2004 by International Taurus Inc. Documents related to bulk sampling requests, restoration program, documentation required to obtain and maintain the mining lease as well as various site inspection reports were also consulted to describe this mining project taken over by Wallbridge.

## 3.1 BIOPHYSICAL ENVIRONMENT

### 3.1.1 GEOLOGICAL AND GEOMORPHOLOGICAL CONTEXT

The project area is located in the Superior Geological Province, which extends throughout the territory of Abitibi-Témiscamingue, James Bay and in the southwestern part of Nunavik. This province encompasses six geological sub-provinces including the Abitibi Archean sub-province near its northern contact with the Opatika subprovince. The area is also known as the Harricana-Turgeon Belt, which is an area characterized by large interconnected distortion corridors extending over 150 km EW by 60 to 90 km wide through the northern part of the volcanic zone of the Abitibi greenstone belt.

The area hosts several gold deposits, including the Ontario Detour Mine, located 80 km west of the Fenelon, in the same strip of rocks.

The Project site is flat and covered with organic matter from which soft, well-drained deposits emerge. The typical stratigraphic sequence consists of 1.4 m of organic material covering a 5.4 m layer of brownish-brown varved clay. This last layer covers very dense tills with a thickness of more than 1 m and a very variable particle size.

### 3.1.2 HYDROGRAPHY

Mine surface water flows into a small intermittent watercourse that drains the bog in which the mining site is located. This watercourse is one of the many tributaries of the Samson River. The Samson River itself is one of the tributaries of the Harricana River flowing northward to James Bay.

The mine site is located within the watershed of the Samson River which flows northwest. It is a small basin of about 90 km<sup>2</sup>; about 70 km<sup>2</sup> of which is drained upstream of the point of entry of mining waters into the river system.

The drainage basin located upstream of the point of entry receives annually about 31,500,000 m<sup>3</sup> of water. Mine water discharged from the mine in one year is estimated at approximately 105,000 m<sup>3</sup>.

Water and sediment sampling were carried out in 1977 and 2004 for environmental monitoring in the receiving environment, either at the upstream or downstream effluent. The 2004 results demonstrate concentrations of harmful substances below the criteria in Schedule 4 of the MMER. It should be noted that the toxicity was not verified during this campaign and that cyanide testing was not required as the ore was not processed on site.

The effluent-specific results are all below the maximum acceptable concentration of Directive 019 (2012).

Sediments were also analyzed in 2004, upstream and downstream of the mine site. The presence of metals in the sediments would be related to abnormally high natural background noise at the perimeter of the mine.

### 3.1.3 VEGETATION AND WETLANDS

Forest stands in the mine area are mainly mature spruce stands. The stands are very old, beyond 120 years and support very short trunks, varying from 7 to 12 m in height and a low density of 25 to 40%. These stands grow in the areas of glacial fluvial deposits, and therefore on xeric to mesic drainage soils. Some spruce-spruce stands and cladonian spruce stands are found. These forest stands are of great importance in the ecology of woodland caribou, as they are the caribou's main source of food.

In general, the land is flat and the slopes vary from 0 to 3%. The lowlands are occupied by peat bogs dominated by Ericaceae (*Kalmia angustifolia* and *Rhododendron groenlandicum*, etc.).

As can be seen on aerial photography and topographic maps, the area consists of numerous peatlands drained by streams that originate at the foot of glacial river deposits. Peatlands are aged and filled with vegetation. They are therefore relatively dry and without free-running water. In the best drained areas, trees have established, while in poorly drained areas, Ericaceae dominate and trees are absent. At the perimeter of the mine site, wetlands are located at streams.

### 3.1.4 TERRESTRIAL AND AVIAN WILDLIFE

The records of the MFFP's Nord-du-Québec Wildlife Management Directorate do not report any specific information in the mine area. Further east, near Grasset Lake, a herd of woodland caribou is reported. The area is located in hunting Area 22. The area is home to a wide variety of fur-bearing animals such as beavers, black bears, weasels, martens, lynxes, wolves, foxes, otters, minks, and pekans.

With respect to avian wildlife, no resting or corridor areas have been identified. On the other hand, wetlands are still very rich at the ecological level and serve as habitat for a multitude of bird species.

### 3.1.5 FISH AND ITS HABITAT

A fishing survey was conducted in 1994 and 2004. The 1994 survey in the Samson River identified northern pike, walleye, suckers, and brook trout. In 2004, the fisheries surveys were conducted at three sites, upstream of the mining exploration area and one downstream site. The purpose of these surveys were to determine the areas likely to be selected in a future study as part of the Environmental Effects Monitoring (EEM) studies required by Environment Canada during the Operation phase of the mine. The most abundant species were black sucker and northern pike.

### 3.1.6 FAUNA AND FLORA WITH SPECIAL STATUS

The potential for presence of species with special status is mainly related to the presence of streams and minerotrophic peatlands.

Inquiries were sent to the CDPNQ to validate the occurrence of threatened, vulnerable or likely to be designated fauna and flora species in the project area. Information from the CDPNQ is presented in Appendix C.

The Department of Sustainable Development, Environment and Climate Change (MDDELCC) advised WSP on August 24, 2016, after consulting with the Québec Natural Heritage Data Center (CDPNQ) of the absence of mention of threatened, vulnerable or likely to be designated species of floristic species within a radius of 5 km around the area under consideration.

With respect to the application to the Department of Forests, Wildlife and Parks (MFFP), WSP received a response dated September 8, 2016. Following consultation with the CDPNQ's information, WSP was advised of the absence of mention of threatened, vulnerable or likely to be designated wildlife species within a radius of 5 km around the study area. The MFFP also provided WSP with species of fish potentially present in the territory of Zones 16 and 17 (corresponding to the southern part of the James Bay territory) as well as the sensitive periods for the reproduction of the fish.

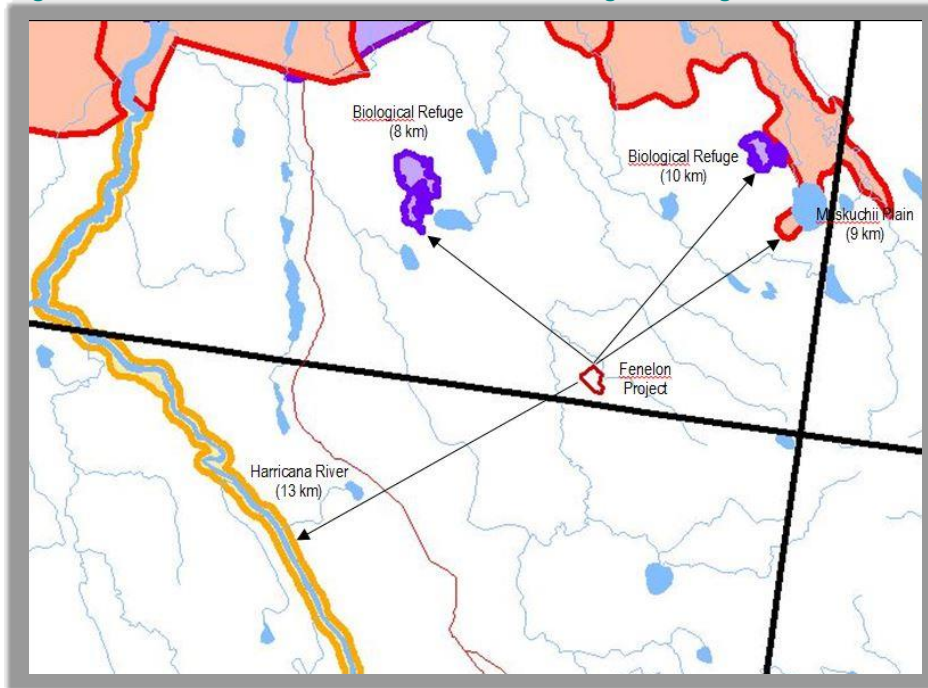
### 3.1.7 WILDLIFE HABITATS AND PROTECTED AREAS

Two protected areas that are restricted from mining are present in the sector (Gestim, 2016). These are Muskuchii Plain (# 4582) and Harricana River (# 5956). Two Biological Refuges, 08551R076 (# 22516) and 08562R004 (# 22535), are also present in the area.

The closest abovementioned area is 8 km away from the project site. It is Biological Refuge 08551R076; another Biological Refuge is located about 10 km away. As for the two protected area, they are respectively 9 and 13 km away from the project. Figure 3.1 illustrates the location of these areas in relation to the project site.



**Figure 3.1 Locations of Protected Areas and Biological Refuges**



Source : Image taken from the Gestim site

## 3.2 HUMAN ENVIRONMENT

### 3.2.1 SOCIO-ECONOMIC CONTEXT

In 2012, the population of the territory of Eeyou Istchee-James Bay was 30,730 inhabitants divided mainly as follows: 16,262 Crees in nine communities, and 14,468 residents in one of the four enclave towns or in one of the localities.

The southwest sector of the Eeyou Istchee-James Bay territory demonstrates significant economic activity, particularly in the area of logging.

Mining activity is also present with the Casa-Bérardi mine, not counting the Matagami sector.

This area has abundant forestry roads that straddle the eskers and intersect the many wetlands. Trapping is the most practiced activity by the Native people on this land.

In regards to the concerns of the occupants of the territory, the health of the environment is at the heart of the concerns of the Cree, because of the close ties between the Cree and the territory. Thus, projects that disrupt ecosystems represent significant concerns for the Cree (Auger, D., 2014). Socio-economic conditions, including access to training and employment, and health and safety also concerns them.

### 3.2.2 USE OF THE TERRITORY

The study site is located on the territory of Eeyou Istchee Baie-James which corresponds to Category III lands under the James Bay Agreement. Logging occupies the most space and the presence of a few prospectors accounts for most of the humans that ply this area. Since mining occupies a very limited area, the impacts on the surrounding environment are less felt. Families with aboriginal rights will therefore be little affected by exploitation.



The company does its utmost to enable trappers and their families to access jobs in order to derive benefits from this operation.

### 3.2.3 ANCESTRAL RIGHTS

The site of the Fenelon project is located on a territory that was traditionally and still is frequented by the Algonquin communities of Pikogan and the Cree communities of Waskaganish.

### 3.2.4 ARCHAEOLOGICAL POTENTIAL

This part of the territory of Eeyou Istchee Baie-James is not conducive to large movements, due more specifically to these large wetlands, there are few or no recognized historical sites. Moreover, the evaluation of the archaeological potential linked to the site has highlighted the absence of constraints to the implantation of the mine. On the other hand, Archéo 08 noted some potential along the banks of the Samson River. The company does not plan to carry out any work in this sector.

# 4 PRIMARY IMPACTS ANTICIPATED

## 4.1 BIOPHYSICAL ENVIRONMENT

Only small spruce forests with cladonies adjoining the site have been recorded. During the development of the site in the early 2000s, they were protected following recommendations from the Québec Ministry of Natural Resources, Wildlife and Parks and the Québec Ministry of the Environment (former MERC and MDDELCC). The position of the sensitive areas is not in the immediate area of the mine site.

Concerning the terrestrial fauna, the exploitation will have no impact since no additional deforestation is required. Activities that may result in loss of habitat are limited to a maximum of 25 hectares that have already been deforested in previous surveys. The development of the mine does not require additional deforestation or expansions that could jeopardize the various natural potentials found in the area.

No wind erosion or runoff problems are anticipated. Traffic on the site and on the roads will have the sole impact of trucking, which is the emission of dust. Since the sector is isolated, this impact is considered minimal. The project will also generate greenhouse gases.

The site itself is located in a vast, poorly drained plain, giving rise to a multitude of old peatlands interspersed with glacial riverine deposits. The latter serve as hydrological sensors and natural filters, thus storing large freshwater reserves, the surplus of which drains to the hydrographic network. Preserving the quality of freshwater is one of the main issues of the project. Indeed, water is the only component of the biophysical environment likely to be significantly affected by mining operations. It is estimated that approximately 105 000 m<sup>3</sup> of the discharge water will be released annually into the aquatic environment. The watershed, upstream of the effluent, receives about 30,000,000 m<sup>3</sup> of water from annual precipitation. This therefore represents an additional water supply of the order of 0.35%.

Mining site operations could result in hydrocarbon contamination of part of the site. Places conducive to such contamination will be analyzed and characterized at the end of the life of the mine. If necessary, these areas will be decontaminated before being rehabilitated and restored.

## 4.2 HUMAN ENVIRONMENT

On the human level, the territory is slightly used by neighboring communities because the ecological characteristics of the territory limit its potential for use and development. The mining sector is accessible only since the mining road was built in 1998. In 2004, however, there were a dozen hunting camps within a radius of 10 km around the site. The nearest one was in a watershed different from the mine, more than 2 km from the deposit. However, since accessibility is limited, the territory is mainly used by industrial forest operators and by Indigenous people for their trapping activities. Operation of the mine will not significantly affect the potential for land use.

The aboriginal people who are active in the territory are first and foremost the trappers who own the aboriginal rights. They are most likely to be affected by the project, if the resources of the territory they use are affected. In 2004, when the maps of the Department of Natural Resources for Wildlife and Parks - were analyzed, the Fenelon project was located on land that is listed as an Algonquin trap line. According to these maps, this Algonquin trap line is overlapped in its northern portion by trap lines A-4 and N-8, which are managed by the Cree communities according to the Cree Trappers Association. These lands are located on the James Bay agreement territory, specifically on Category III lands.

The installation of the mining road facilitates access to the families of trappers, active in the sector as well as to other users of the forest, such as fishermen's and hunters. Liquid effluent from the mine, which will be treated prior to discharge, is unlikely to harm fish populations and affect fishing activities in this area.

The communities where these trap lines are located will thus also benefit from spin-offs. To ensure the integration of Cree and Jamesian residents within the mine's employment structure, a human resources development plan and a training strategy will be developed.

The proponent wants to ensure that economic benefits will accrue for the people occupying the territory of Eeyou Istchee Baie-James. The people most affected by the operation are Aboriginal families with aboriginal rights. They will be the first targeted by these spin-offs.

### **4.3 MITIGATION AND RESTORATION MEASURES**

This project does not have many negative impacts on the environment and the human environment. A priori, mitigation measures will be limited to dust control and the recovery of soils contaminated by accidental spills, if so. Several positive impacts are anticipated. In the past, work on the Fenelon deposit opened up the territory to the forestry and mining industry.

The opening of this operation is also beneficial for the Crees, Algonquins, and the Jamesians, through the creation of jobs and the possibility of training of the workforce. In addition, certain infrastructures may be rehabilitated by remaining on the site after the mine closes, in agreement with local stakeholders.

Equipment and buildings on the mine site will be recovered after production. For example, heavy machinery, garage, offices and other infrastructure will be broken into pieces and transported outside the site to restore the premises.

However, some of the camp's infrastructure could remain in place and be made available to the trapper if he so desires. Otherwise, the camp will be transported outside the site.

The fire protection company (SOPFEU) will ensure the protection and monitoring of the site according to its usual activities. The company will cooperate fully with SOPFEU and will have on-site equipment to protect and defend against forest fires required by its activities.

The restoration plan, which was tabled in 2001 (and amended in 2002) to the Department of Natural Resources, Wildlife and Parks, will be revised taking into account the new standards in effect.

### **4.4 POSITIVE IMPACTS**

The Fenelon project will help maintain and increase production at the Richmond Mines' Camflo mill.

Construction work at the Fenelon mining site will involve approximately 80 employees, while mining shall require 105 people.

# 5

## PUBLIC INFORMATION AND CONSULTATION PROCESS

### 5.1 CONSULTATIONS ALREADY CARRIED OUT AND EXPECTED

In 2004, meetings were held with the communities concerned to explain the different stages of exploitation of the deposit. It was agreed that communication would be established between the organizations representing the communities concerned and, in a wider range, with the representatives of the regional bodies so that they would know the project and understand its impacts.

Other meetings will be scheduled and communication will be regular. In late November 2016, letters of introduction were sent to the communities concerned; Algonquin and Cree, as well as band councils. These meetings and communications will be aimed at informing and consulting people living in the territory throughout the process, from project planning to the end of the exploitation of the deposit. A communication plan will be developed to assess the perceptions of the project by the Cree, Algonquin and Jamesian communities and to identify appropriate mitigation measures.

### 5.2 COMMENTS AND CONCERNS EXPRESSED BY INDIGENOUS GROUPS

At the meetings held in the past, there was much talk about employability, not only at the level of the jobs on the site and by the entrepreneurs themselves, but also at the hiring of specialized firms with which the Cries have partnerships. The maintenance of the quality of the environment was also mentioned as a priority issue.

## 6 PROJECT SCHEDULE

The year 2016 is currently devoted to resource calculations, pre-feasibility studies and design of the mine and water treatment basins, as well as the preparation of permit applications and certificates of authorization. By the summer of 2017, Wallbridge expects to have completed the restoration plan and improved roads and ponds. The de-mining and rehabilitation of existing facilities and the installation of the mining camp will also be completed. During the summer of 2017, the ramp will be extended and levels will be developed. Operation will be ongoing and will continue until May 2018. In the summer of 2018, if the exploration work is inconclusive, the mine will cease operation and the mining camp will be dismantled. The various elements mentioned in the restoration plan will then be realized.

The planned stages of the Fenelon project are summarized in Table 6.1.

**Table 6.1 Preliminary Development Schedule for the Fenelon Mining Project**

Activity	Schedule
Resource evaluation (43-101)	2016
Test mining for mineral process	2016
Feasibility study	2016
Environmental Impact study review / Permit application	2016-2017
Construction	2017
Stope mining	2017
Ore processing	2018
Site restoration and closure	2018-2019

## 7 SUBSEQUENT PHASES AND RELATED PROJECTS

The property as a whole, not only around the deposit, will be subject to further exploration and possibly development during operation.

Wallbridge is currently negotiating with Richmond Mines Inc. for processing ore at the Camflo mill.



# Appendix A

RESOLUTION OF THE BOARD OF DIRECTORS





**WALLBRIDGE MINING COMPANY LIMITED**

**CERTIFICATE**

**"Supplemental Signing Authorizations"**

RESOLVED THAT, effective as of and from October 18, 2016, any one officer or director of the Corporation, including those duly appointed officers or directors set out in Schedule "A" attached hereto, be and is hereby authorized and appointed on behalf of the Corporation to sign and deliver all contracts, documents and instruments in writing requiring execution by the Corporation relating to the Fenelon Mine Property, its exploration and development (including permitting) and all contracts, documents or instruments in writing so signed shall be binding upon the Corporation without any further authorization or formality."

I, H. J. Blake, Corporate Secretary of Wallbridge Mining Company Limited (the "**Corporation**"), hereby certify that the foregoing is a true and correct copy of a resolution of the directors of the Corporation passed with effect as of and from October 18, 2016.

DATED this 18<sup>th</sup> day of October, 2016





---

H.J. Blake, Corporate Secretary

**SCHEDULE "A"**

**CERTIFICATE OF INCUMBENCY**

The undersigned, Paramarz Kord, the duly appointed President and Chief Executive Officer of Wallbridge Mining Company Limited (the "Company"), hereby certifies for and on behalf of the Company, and not in his personal capacity, that each of the following named persons is duly elected or appointed and qualified as the incumbent in the office or offices of the Company set forth following his name, and the signature set forth opposite his name is a true specimen of his genuine signature:

<u>Name</u>	<u>Position(s)</u>	<u>Signature</u>
Ajar Soever	Executive Chairman	
Paramarz Kord	President and Chief Executive Officer	
Mary Montgomery	Chief Financial Officer	
Harold J. Blake	Corporate Secretary	
Linda Zubal	VP, Corp. Communications	
Joshua Bailey	VP, Exploration	

IN WITNESS WHEREOF, the undersigned has executed this Certificate this 18<sup>th</sup> day of October 2016.

  
\_\_\_\_\_  
Paramarz Kord  
President and Chief Executive Officer

The undersigned, Harold J. Blake, the Corporate Secretary of the Company, hereby certifies that Paramarz Kord is the President and Chief Executive Officer of the Company and that the signature set forth opposite his name is his true, correct and genuine signature.

Dated this 18<sup>th</sup> day of October 2016.

  
\_\_\_\_\_  
H. J. Blake  
Corporate Secretary

# Appendix B

## CARTOGRAPHY

FIGURE 1 GENERAL SITE LOCATION


FIGURE 2 GENERAL ARRANGEMENT







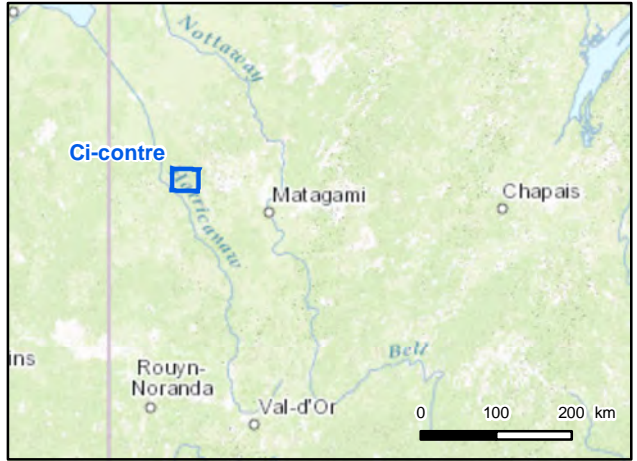
Légende / Legend

 Bail minier / Mining Lease (BM 864)

0 0,5 1 2 Kilomètres

1 : 70 000

Projection : NAD83, UTM zone 17





**Renseignements préliminaires / Preliminary Information**  
**Projet Fénélon**

**Figure 1**  
**Localisation générale du site**  
**Site General Location**

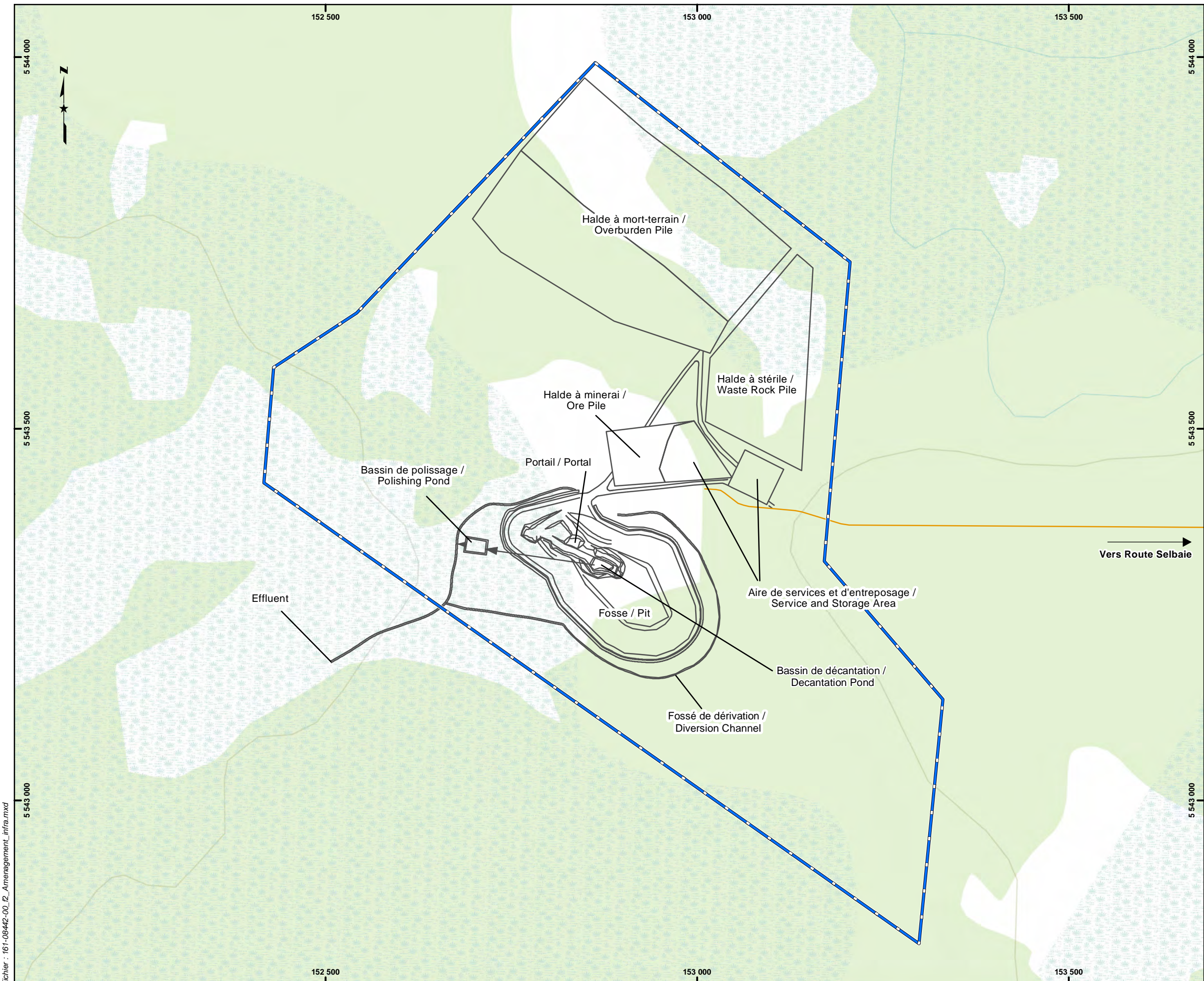
**Sources :**  
ESRI World Topo Map  
ESRI World Imagery

Préparée par : Y. Perrier  
Approuvée par : S. Baillargeon









**Légende / Legend**

Bail minier / Mining Lease (BM 864)

100 50 0 100 Mètres  
1:5 000  
Projection : NAD83, UTM zone 17



**Renseignements préliminaires / Preliminary Information**  
**Projet Fénélon**

**Figure 2**  
**Aménagement général**  
**General Arrangement**

**Sources :**  
ESRI World Topo Map  
Infrastructures : Wallbridge Mining Company Ltd

Préparée par : Y. Perrier  
Approuvée par : S. Baillargeon









# Appendix C

CDPNQ REQUESTS



PAR COURRIEL

Rouyn-Noranda, le 24 août 2016

Madame Geneviève Godbout  
WSP Canada inc.  
3, rue Principale Nord, bureau 200  
Amos (Québec) J9T 2K5

N/Réf. 7970-08-01-00017-00  
401384373

**Objet : Demande relative aux espèces rares ou menacées – Secteur Projet Fénélon**

Madame,

En réponse à votre demande d'information du 16 août 2016 concernant les espèces floristiques menacées ou vulnérables de la région du Nord-du-Québec relativement au secteur Projet Fénélon (rayon 5 km), veuillez prendre connaissance de ce qui suit.

Le Centre de données sur le patrimoine naturel du Québec (CDPNQ) est un outil servant à colliger, analyser et diffuser l'information sur les espèces menacées. Les données provenant de différentes sources (spécimens d'herbiers et de musées, littérature scientifique, inventaires récents, etc.) sont intégrées graduellement, et ce, depuis 1988. Une partie des données existantes n'est toujours pas incorporée au Centre si bien que l'information fournie peut s'avérer incomplète. Une revue des données à être incorporées au Centre ainsi que des recherches sur le terrain s'avèrent essentielles pour obtenir un portrait général des espèces menacées du territoire à l'étude. De plus, la banque de données ne fait pas de distinction entre les portions de territoires reconnues comme étant dépourvues de telles espèces et celles non inventoriées. Pour ces raisons, l'avis du CDPNQ concernant la présence, l'absence ou l'état des espèces menacées d'un territoire particulier n'est jamais définitif et ne doit pas être considéré comme un substitut aux inventaires de terrain requis dans le cadre des évaluations environnementales.

...2

À la suite de la consultation des informations du CDPNQ, nous vous avisons de l'absence, pour votre zone à l'étude sous évaluation, de mentions de plantes menacées, vulnérables ou susceptibles d'être ainsi désignées.

En vous remerciant de l'intérêt que vous portez au Centre de données sur le patrimoine naturel du Québec, nous demeurons disponibles pour répondre à vos questions.

Veillez agréer, Madame, nos meilleures salutations.

BL/da



Benoît Larouche, biol., M.Sc.  
Service municipal, hydrique et milieu naturel

PAR COURRIEL

Chibougamau, le 8 septembre 2016

Madame Geneviève Godbout  
WSP Canada Inc.  
3, Principale Nord, bureau 200  
Amos (Québec) J9T 2K5

**Objet :     Requête concernant les renseignements préliminaires pour la réalisation  
d'un projet en milieu nordique, Projet minier Fénélon**

Madame,

En réponse à votre courriel du 16 août 2016, nous vous transmettons l'information suivante :

- La lettre réponse du CDPNQ;
- Liste des espèces de poisson potentiellement présentes sur le territoire de la zone 16 et 17
- Les périodes sensibles pour la reproduction des poissons

Aucun habitat faunique cartographié et aucune frayère ne sont répertoriés dans la zone d'étude. En ce qui concerne l'habitat du poisson, qu'il soit cartographié ou non, il demeure protégé en vertu de la Loi sur la conservation et la mise en valeur de la faune (LCMVF) et du Règlement sur les habitats fauniques (RHF).

De plus, aucun site faunique d'intérêt (SFI) n'est répertorié dans la zone d'étude.

Veuillez toutefois noter que l'absence d'une ou plusieurs espèces pour un secteur donné ne signifie pas que cette ou ces espèces ne sont pas présentes sur ce territoire puisque des inventaires exhaustifs n'ont pas été faits pour l'ensemble des espèces sur notre territoire. De plus, la répartition spatiale de toute espèce peut changer selon l'évolution des écosystèmes et en réponse à des pressions environnementales de cause naturelle ou anthropique.

En tout temps, la DGFa-10 vous invite à transmettre toutes observations fauniques effectuées dans le secteur des travaux et dans leurs environs à l'adresse [InfoFaune\\_Nord-du-Quebec@mffp.gouv.qc.ca](mailto:InfoFaune_Nord-du-Quebec@mffp.gouv.qc.ca). Lors de la transmission, merci d'indiquer le nom et les coordonnées de l'observateur, l'espèce et le nombre d'individus observés, la date et les coordonnées géographiques précises.

...2

Les données demeurent la propriété du ministère des Forêts, de la Faune et des Parcs. Vous ne pouvez vendre, donner, prêter, échanger ou transmettre ces informations à des tiers sans notre accord. De plus, l'information transmise doit être utilisée uniquement pour les travaux cités dans votre demande. De plus, une demande écrite devra nous être acheminée pour toute autre utilisation de ces informations. Veuillez noter qu'aucune partie de celles-ci ne peut être utilisée à des fins lucratives par l'utilisateur autorisé.

Veuillez recevoir, Madame, mes salutations les meilleures.



Karen Savard  
Technicienne de la faune

P.J. (3)

PAR COURRIEL

Chibougamau, le 8 septembre 2016

Madame Geneviève Godbout  
WSP Canada Inc.  
3, Principale Nord, bureau 200  
Amos (Québec) J9T 2K5

**Objet : Renseignements préliminaires pour la réalisation d'un projet en milieu nordique, Projet minier Fénélon, Territoire Eeyou Istchee Baie-James, dans la région administrative Nord-du-Québec**

Madame,

La présente fait suite à votre demande d'informations du 16 août 2016, adressée au Centre de données sur le patrimoine naturel du Québec (CDPNQ) - volet faune de la région Nord-du-Québec, concernant l'objet en titre.

Le CDPNQ est un outil servant à colliger, analyser et diffuser l'information sur les espèces menacées. Les données provenant de différentes sources (spécimens d'herbiers et de musées, littérature scientifique, inventaires récents, etc.) y sont intégrées graduellement, et ce, depuis 1988. Toutefois, une partie des données existantes n'est toujours pas incorporée au Centre, si bien que l'information fournie peut s'avérer incomplète. Une revue des données à être incorporées au Centre ainsi que des recherches sur le terrain s'avèrent essentielles pour obtenir un portrait général des espèces menacées du territoire à l'étude. De plus, la banque de données ne fait pas de distinction entre les portions de territoires reconnues comme étant dépourvues de certaines espèces et les portions non inventoriées. Pour ces raisons, l'avis du CDPNQ concernant la présence, l'absence ou l'état des espèces menacées d'un territoire particulier n'est jamais définitif et ne doit pas être considéré comme un substitut aux inventaires de terrain requis dans le cadre des évaluations environnementales.

À la suite de la consultation des informations du CDPNQ, nous vous avisons de l'absence, de mentions d'espèces fauniques menacées, vulnérables ou susceptibles d'être ainsi désignées.

...2

Afin de faire du CDPNQ l'outil le plus complet possible, il nous serait utile de recevoir vos données relatives aux espèces menacées issues d'inventaires reliés à ce projet. Veuillez noter que les données pour les nouvelles occurrences nous intéressent particulièrement, mais que les mises à jour d'occurrences déjà connues sont toutes aussi importantes.

En vous remerciant de l'intérêt que vous portez au Centre de données sur le patrimoine naturel du Québec, nous demeurons disponibles pour répondre à vos questions.

Veuillez recevoir, Madame, nos salutations les meilleures.

A handwritten signature in black ink, appearing to read 'K. Savard', is centered within a light gray rectangular box.

Karen Savard, technicienne de la faune  
*CDPNQ - volet faune*



## Liste des espèces de poisson potentiellement présentes sur le territoire de la zone 16 et 17

Nom français	Nom Latin	Code Espèces
Achigan a petite bouche	<i>Micropterus dolomieu</i>	MIDO
Barbotte brune	<i>Ameiurus nebulosus</i>	AMNE
Chabot à tête plate	<i>Cottus ricei</i>	CORI
Chabot tacheté	<i>Cottus bairdii</i>	COBA
Chabot visqueux	<i>Cottus cognatus</i>	COCO
Chevalier rouge	<i>Moxostoma macrolepidotum</i>	MOMA
Cisco de lac	<i>Coregonus artedi</i>	COAR
Dard à ventre jaune	<i>Etheostoma exile</i>	ETEX
Doré jaune	<i>Sander vitreus</i>	SAVI
Doré noir	<i>Sander canadensis</i>	SACA
Épinoche à 5 épines	<i>Culaea inconstans</i>	CUIN
Épinoche à 9 épines	<i>Pungitius pungitius</i>	PUPU
Esturgeon jaune	<i>Acipenser fulvescens</i>	ACFU
Fouille-roche zébré	<i>Percina caprodes</i>	PECA
Grand brochet	<i>Esox lucius</i>	ESLU
Grand corégone	<i>Coregonus clupeaformis</i>	COCL
Laquaiche argentée	<i>Hiodon tergisus</i>	HITE
Laquaiche aux yeux d'or	<i>Hiodon alosoides</i>	HIAL
Lotte	<i>Lota lota</i>	LOLO
Malachigan	<i>Aplodinotus grunniens</i>	APGR
Méné de lac	<i>Couesius plumbeus</i>	COPL
Méné émeraude	<i>Notropis atherinoides</i>	NOAT
Méné pâle	<i>Notropis volucellus</i>	NOVO
Ménomini rond	<i>Prosopium cylindraceum</i>	PRCY
Meunier noir	<i>Catostomus commersonii</i>	CACO
Meunier rouge	<i>Catostomus catostomus</i>	CACA
Mulet à cornes	<i>Semotilus atromaculatus</i>	SEAT
Mulet perlé	<i>Margariscus margarita</i>	MAMA
Museau noir	<i>Notropis heterolepis</i>	NOHL
Naseux des rapides	<i>Rhinichthys cataractae</i>	RHCA

**Liste des espèces de poisson potentiellement présentes sur le territoire de la zone 16 et 17 (suite)**

<b>Nom français</b>	<b>Nom Latin</b>	<b>Code Espèces</b>
Naseux noir	<i>Rhinichthys atratulus</i>	RHAT
Omble de fontaine	<i>Salvelinus fontinalis</i>	SAFO
Omisco	<i>Percopsis omiscomaycus</i>	PEOM
Ouitouche	<i>Semotilus corporalis</i>	SECO
Perchaude	<i>Perca flavescens</i>	PEFL
Queue à tache noire	<i>Notropis hudsonius</i>	NOHU
Raseux-de-terre noir	<i>Etheostoma nigrum</i>	ETNI
Tête-de-boule	<i>Pimephales promelas</i>	PIPR
Touladi	<i>Salvelinus namaycush</i>	SANA
Ventre citron	<i>Phoxinus neogaeus</i>	PHNE

## Périodes critiques des poissons - Région Nord-du-Québec

Espèces	Dates
Omble de fontaine	1 septembre au 30 juin
Touladi	1 septembre au 30 juin
Saumon atlantique	1 août au 30 juin
Omble chevalier	1 août au 30 juin
Ouananiche	1 août au 30 juin
Grand corégone	1 septembre au 30 novembre
Cisco de lac	1 septembre au 30 novembre
Doré jaune	15 avril au 15 juillet
Doré noir	15 avril au 15 juillet
Esturgeon jaune	15 avril au 15 juillet
Grand brochet	15 avril au 15 juillet
Laquaiche aux yeux d'or	15 avril au 15 juillet
Meuniers	15 avril au 15 juillet



