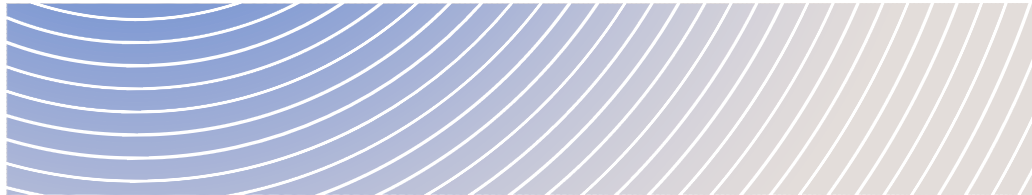




Impact Assessment
Agency of Canada

Agence d'évaluation
d'impact du Canada

Analysis of Nemaska Lithium's Changes Made to the Whabouchi Mine Project



AUGUST 2023



Canada 



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1. Introduction

The Whabouchi Mine Project (the Project) proposed by Nemaska Lithium (the Proponent) involves constructing, operating and decommissioning an open-pit surface and underground spodumene mine for the purpose of producing lithium. The Project is located in the territory covered by the James Bay and Northern Quebec Agreement, in Eeyou Istchee, and is 30 kilometres from the Cree village of Nemiscau and 280 kilometres northwest of the city of Chibougamau. The Project includes the operation of an open pit and underground mine, a waste rock and tailings impoundment area, an ore concentrator, and administrative and maintenance buildings. The mine would have a production capacity of approximately 3,000 tonnes per day over 26 years.

The Project underwent an environmental assessment pursuant to the *Canadian Environmental Assessment Act* (CEAA 2012). The Environmental Assessment Report¹ prepared by the Canadian Environmental Assessment Agency was published on July 29, 2015. The Decision Statement² for this Project was issued on the same date by the Minister of Environment and Climate Change, and was re-issued in 2018³ to reflect a change in the Proponent's name. The Decision Statement contains legally binding conditions, which include mitigation measures and follow-up requirements with which the Proponent must comply throughout the life of the Project.

On August 28, 2019, the *Impact Assessment Act* (IAA) came into force, repealing the CEAA 2012. However, section 184 of the IAA provides that decision statements published under CEAA 2012 are deemed to be statements under the IAA and are, therefore, subject to the provisions of the IAA. On the same date, the Canadian Environmental Assessment Agency became the Impact Assessment Agency of Canada (the Agency). In this report, the term "Agency" may refer to either the former Canadian Environmental Assessment Agency or the current Impact Assessment Agency of Canada.

In November 2019, the Proponent informed the Agency that changes needed to be made to the Project authorized in 2015. The description of these changes and an analysis of the potential adverse environmental effects are presented in the document "Modifications to the Whabouchi Mining Project – Nemaska Lithium – Responses to the Request for Clarifications from the Impact Assessment Agency of Canada" (GCM Consultants, April 2022). In May 2023, the Proponent also submitted to the Agency an addendum to the April

¹ Link to document: <https://aeic-iaac.gc.ca/050/evaluations/document/120527?culture=en-CA>

² Link to document: <https://aeic-iaac.gc.ca/050/evaluations/document/102090?document=102090&culture=en-CA>

³ Link to document: <https://iaac-aeic.gc.ca/050/evaluations/document/124441?culture=en-CA>



2022 document, entitled “Modifications to the Whabouchi Mining Project – Addendum – Responses to the Request for Clarifications from the Impact Assessment Agency of Canada” (GCM Consultants, May 2023).

The purpose of this analysis report is to determine whether the changes to the Project by the Proponent may cause adverse environmental effects⁴ different from or additional to the changes initially identified in 2015, including additional impacts on the rights of Indigenous Peoples. Where appropriate, the Agency must determine whether the mitigation and follow-up measures included in the Decision Statement are sufficient to manage these effects and, if needed, make changes to these measures or add new ones. As part of its analysis, the Agency consulted and sought comments from federal authorities, the Cree Nation of Nemaska and the Cree Nation Government, as well as the public during the public consultation period held from June 6 to July 5, 2023 on the draft report and proposed amendments to the Decision Statement. After taking into account the comments received from these parties, the Agency is making a final recommendation regarding the amendment to the Decision Statement.

In this analysis, the Agency determined:

- whether the changes constitute a physical activity covered by the *Physical Activities Regulations* (the Regulations) and therefore require an impact assessment under the IAA;
- whether the new activities are incidental to, and therefore part of, the Designated Project;
- whether any changes (including addition or removal) may be required to the mitigation measures and follow-up requirements included as conditions in the current Decision Statement to accommodate the changes.

The Agency’s analysis is summarized in this report.

In parallel with the federal process, the Project is also overseen provincially by the Quebec Environmental and Social Impact Review Committee (COMEX). COMEX is an independent organization that reports to the Quebec Minister of the Environment, the Fight Against Climate Change, Wildlife and Parks (MELCCFP). Its mission is to contribute to the protection of the health, environmental and economic and social well-being of the populations who live on the territory of the James Bay and Northern Quebec Agreement south of the 55th parallel. The Proponent was granted the various authorizations required from COMEX and MELCCFP for the Project and the changes.

⁴ Environmental effects as defined by CEAA 2012 include the current use of lands and resources and the health and socio-economic conditions of First Nations.



2. Analysis of the changes to determine whether they are subject to the Regulations

The Regulations identify the physical activities for which the Agency is required to conduct an impact assessment. According to the information submitted by the Proponent, the changes to the Project are as follows:

New activities:

- Operation of two borrow pits and transportation of materials to the mine site; and
- Erection of a temporary construction camp at the mine site, including a sanitary waste water treatment system with surface discharge.

Modified activity:

- Relocation of the final effluent discharge pipe.

On the basis of its analysis, the Agency determined that the new activities were not physical activities as described in the Regulations. They do not therefore constitute a designated project that needs to undergo an impact assessment under the IAA. However, the Agency concludes that these new activities are incidental to the Project and should be included in the Designated Project.

These new incidental activities and the modified activity are required to undergo an environmental assessment to determine whether the current Decision Statement needs to be amended. This report presents an analysis of the potential adverse environmental effects of the new activity and the modified activities. The analysis determined whether modifications, including removals or additions, were required to the mitigation measures and the follow-up requirements included as conditions in the Decision Statement, issued in 2015. It also determined whether additional impacts on the exercise of rights may occur in the Indigenous communities identified in the Decision Statement. It should be noted that the Proponent has already carried out some work related to these activities and some of the effects attributable to those activities have already occurred.



3. Analysis of the changes made and the potential adverse environmental effects

3.1 Change of proponent and change to the project description

The Proponent is asking to change the name of the Proponent that appears in the Decision Statement that was re-issued in 2018. The Agency therefore recommends that the Decision Statement be amended so that the Proponent's current name, Nemaska Lithium Inc., be reflected.

Furthermore, in the Proponent's document (GCM Consultants, April 2022), the Proponent requests to change the wording used for the project description in the Decision Statement. The wording in the 2015 Decision Statement is as follows:

“Nemaska Lithium Inc. is proposing to construct, operate and decommission an open-pit surface and underground spodumene mine for the purpose of producing lithium. The Project would be located 30 kilometres from Nemiscau and 280 kilometres north-northwest of Chibougamau. As proposed, the Designated Project includes the operation of an open pit and underground mine, a waste and tailings impoundment area, an ore concentrator, and administrative and maintenance buildings. The mine would have a production capacity of approximately 3,000 tonnes per day over a mine life of 26 years.”

The Proponent has requested to update this project description and proposed the following wording:

“Nemaska Lithium Inc. is proposing to construct, operate and decommission an open-pit surface and underground spodumene mine for the purpose of producing lithium. The Designated Project would be located 30 kilometres from Nemiscau and 280 kilometres northwest of Chibougamau. As proposed, it includes the operation of an open pit and underground mine, a waste and tailings impoundment area, an ore concentrator, and administrative and maintenance buildings. The mine would have a maximum production capacity of 3,475 tonnes of ore per day over a mine life of 26 years for the open pit and 7 years for the underground mine, for a total of 33 years.”

The Agency noted that this change suggests an increase in daily ore production and in the mine life of the Project authorized in 2015. However, the Proponent did not present an analysis of the potential environmental



effects that these changes could cause. The Cree Nation Government and the Cree Nation of Nemaska emphasized the importance of clear and timely communication of the Proponent's intentions regarding potential increases in daily ore production, mine life and any other anticipated changes to the Project. The Proponent is expected to provide a "complete" description of the changes to the Project and anticipated effects before initiating any consultation with potentially affected parties, the Cree Nation Government and the Cree Nation of Nemaska.

The Agency is therefore of the view that the project description cannot be changed in the absence of information related to the effects assessment and must consequently be submitted separately in a later request for changes to the Project, which shall include an assessment of the potential environmental effects of the proposed changes and proposed mitigation measures, as appropriate.

3.2 Analysis of potential adverse environmental effects

The analysis of the potential adverse environmental effects caused by the changes, which include new activities and a modified activity, focuses on the following valued components which, with the exception of species at risk, are the same as those considered by the Agency during the environmental assessment in 2015:

- Fish and fish habitat;
- Migratory birds⁵;
- Health and socio-economic conditions of First Nations;
- Physical or cultural heritage (structures of historical, archeological, paleontological or architectural significance);
- Current use of lands and resources by First Nations for traditional purposes; and
- Species at risk.

Throughout this process, the Agency sought the expertise of certain federal authorities according to their respective mandates. The following federal authorities were consulted: Fisheries and Oceans Canada (DFO),

⁵ According to the *Migratory Birds Convention Act, 1994* (MBCA), migratory means a migratory bird referred to in the Convention, and includes the sperm, eggs, embryos, tissue cultures and parts of the bird.



Health Canada (HC) and Environment and Climate Change Canada (ECCC). Natural Resources Canada (NRCan) was also consulted during the public comment period. A summary of their respective comments is provided in section 5.2.2. The Agency has considered the advice received from these authorities in its analysis.

3.2.1 Operation of two borrow pits and transportation of materials to the mine site

The Project authorized in 2015 involved the use of existing borrow pits (already in operation) to supply the materials required for the construction and operation of the mine. The Agency did not consider this activity to be incidental to the Designated Project. However, upon further analysis, the Proponent determined that these borrow pits would be insufficient to meet its needs. Therefore, to address the shortfall, the Proponent identified two new borrow pits of less than three hectares (BB-06 and BB-07) located in close proximity to the mine site (less than 3 kilometres away). Note that the Proponent obtained provincial environmental authorizations for this new activity in 2017.

The Agency considered the geographic extent of the borrow pit operations to be limited to the area of the borrow pits, whereas for the transportation of materials, the geographic extent includes the section of road used between the borrow pits and the mine site. Figure 1 (see Appendix) shows the location of the two new borrow pits. It should be noted that Figure 1 also shows a third borrow pit (BB-05), which ultimately proved to be unusable and has therefore been excluded from the current analysis.

The following analysis was undertaken to determine whether the operation of these two borrow pits and associated road transport to the mine site would result in adverse environmental effects on the valued components and whether these effects would require changes to the conditions set out in the Decision Statement.

3.2.1.1 Proponent's analysis

In its analysis, the Proponent concludes that most of the potential environmental effects from the operation of the two borrow pits (including the transportation of materials) are similar to or basically the same as those in the authorized Project. However, the Agency wishes to point out that the Proponent is comparing the potential environmental effects of two different activities (operation of existing borrow pits versus creation of new borrow pits).

The Proponent considers that there are no changes in the environmental effects on groundwater and surface water, the sound environment, fish and fish habitat, migratory birds, and physical and cultural heritage/structures of historical, archeological, paleontological or architectural significance, since the machinery



used, the risks and the mitigation measures are the same as those identified in the authorized Project. For the atmospheric environment, species at risk and human health, the Proponent considers that the effects are similar to those in the initial scenario, since the mining activities and the mitigation measures applied will remain the same. In addition, no crushing or screening activities are planned, which means there should be no increase in dust emissions.

However, the Proponent considers that the adverse environmental effects on terrestrial environments and on the current use of the land and resources for traditional purposes will be more significant than those assessed in the initial scenario.

With regard to terrestrial environments, nearly five hectares have been cleared of brush and trees to date (borrow pits BB-06 and BB-07). According to the Proponent, these areas provided habitat for mammals and avifauna. However, only borrow pit BB-07 has been operated to date. No wetlands would be disturbed by the operation of these borrow pits.

Regarding the current use of the land and resources for traditional purposes, the borrow pits are located on trapline R-20. Site clearing, nuisances associated with the use of heavy machinery, and the transportation of granular materials could therefore affect the traditional activities of the tallyman and other users. The operation of the borrow pits could affect wildlife that are hunted or trapped, which would tend to avoid these areas. In addition, at the June 14, 2023 meeting for the Whabouchi Project Environment Committee⁶, discussions took place regarding the relocation of the tallyman's camp in the event that the operation of borrow pit BB-07 were to adversely affect the tallyman's quality of life. In this context, the Proponent has committed to relocating the tallyman's camp or those of other land users upon request.

Given the mitigation measures proposed in section 2.0 of the Proponent's document (GCM Consultants, April 2022) and those included in its Environmental and Social Monitoring Program (ESMP), the Proponent considers that the significance of the anticipated residual effects on terrestrial environments and on the current use of the land and resources for traditional purposes is low, even though the adverse environmental effects are more significant than in the initial scenario. The new mitigation measures proposed by the Proponent are the following:

- Reduce the footprint to limit vegetation removal, stripping and reworking of soil to the smallest possible area;

⁶ The Environment Committee includes the Cree Nation Government, the Cree Nation of Nemaska and the Proponent.



- At the end of the operation phase, the pits will be restored in accordance with the *Regulation respecting pits and quarries*⁷ by flattening the slopes and spreading the topsoil that was stockpiled in connection with construction of the mine. If the quantity of stored topsoil is not sufficient to cover the entire stripped surface, seedlings will be planted as required; and
- In order to limit dust generation, vehicle speed will be limited to 30 km/h on access roads and around borrow pits.

3.2.1.2 Agency's analysis and conclusions

The Agency is of the view that the operation of two new borrow pits and the transportation of materials would result in additional adverse environmental effects on the valued components. Although some effects associated with the construction of the mine site, such as site clearing, an increase in suspended solids in nearby watercourses and blasting, were identified in the Agency's Environmental Assessment Report, the development and operation of new pits increases the cleared area near the mine site, and therefore an increase in the area of disturbed habitat and in the loss of habitat suitable for wildlife (including migratory birds and game). Noise from borrow pit operations, transportation of materials, and the presence of workers may disturb wildlife and alter their behaviour (feeding, movement, breeding) in areas that were not covered during the 2015 environmental assessment. These effects could affect the use of the land by members of Indigenous communities in the area.

During the consultations with federal authorities, ECCC noted that many of the activities that result in effects on migratory birds and species at risk have already been carried out. It also indicated that, in general, the effects would remain substantially the same as those analyzed during the 2015 environmental assessment, and that the proposed mitigation, monitoring and follow-up measures are appropriate for reducing the risk of causing significant adverse environmental effects on the valued components. In addition, ECCC pointed out that the borrow pits located near the mine site and within 100 metres of the Route du Nord do not have the characteristics sought by woodland caribou which reduces the chances of finding this species in the area. The likelihood of adverse effects on this species is therefore low.

In addition, ECCC is of the view that certain wooded areas present potential for the presence of snags, which can serve as maternity or resting sites for listed bat species at risk such as little brown myotis (*Myotis lucifugus*) and Northern myotis (*Myotis septentrionalis*). Thus, ECCC recommends adding the following three new key

⁷ The *Regulation respecting pits and quarries* is a regulation of the Province of Quebec.



measures to the conditions in order to avoid adverse effects caused by site clearing on these species and their habitats:

- Carry out site clearing activities outside of the breeding season of these species, which generally runs from June 1 to July 31;
- If clearing work is carried out during the breeding season of these species, monitoring should be carried out to check for the presence of maternity units; and
- In the event of a maternity site being discovered, additional measures should be implemented, such as the establishment of a buffer zone.

To this end, the Agency recommends that these measures be applied to any new site clearing on the Project site.

With regard to alteration of the atmospheric environment and potential effects on the human health of First Nations, ECCC notes that the borrow pits are in close proximity to the mine site and that their use should not significantly alter the air emissions as previously estimated. It should also be noted that HC is of the view that the changes made by the Proponent are not likely to require any changes to the mitigation measures and follow-up requirements identified in the Decision Statement in relation to health.

With regard to impacts on current land use, the Agency notes that the Proponent has committed to relocate the hunting camps of potentially affected users.

With respect to groundwater and surface water, and the potential effects on certain valued components, ECCC recommends that the following three new key measures be included in the conditions set out in the Decision Statement to prevent groundwater and surface water contamination associated with the use of machinery for borrow pit operations:

- Materials must be extracted at least one metre above the water table;
- No maintenance may be performed on any machinery in the borrow pits; and
- No petroleum products (gasoline, diesel, motor oil, hydraulic oil, etc.) or hazardous waste (waste oil, waste solvents, etc.) may be stored or managed at the borrow pit sites.

As indicated by the Proponent, when the operation phase ends, the borrow pits will be restored in accordance with the provincial *Regulation respecting pits and quarries* by flattening the slopes and by spreading the topsoil that was stockpiled in connection with construction of the mine.



The Agency is of the view that the addition of the three mitigation measures proposed by ECCC will reduce potential effects during the operation of the borrow pits and should be included in the Decision Statement to prevent any contamination to groundwater and surface water. The Proponent plans to implement these three mitigation measures as outlined in its April 2022 document. The Cree Nation Government also raised questions with the Agency regarding the planned location of machinery maintenance activities to ensure that they would not take place at the borrow pit site. The Agency has confirmed to the Cree Nation Government that machinery maintenance activities are not planned to take place at the borrow pit site.

Furthermore, the Agency recommends that the operation of two borrow pits be added to the Description of the Designated Project in the Decision Statement and to modify the definition of Designated Project in condition 1.9 in order to incorporate the changes made to the Project. For example, condition 6.1.2 imposing a vehicle speed limit of 30 km/h on the Project site would also apply to the borrow pit site.

Regarding other effects on the valued components, the Decision Statement already includes conditions to ensure that they are sufficiently mitigated. Therefore, the Agency is of the view that, based on the information available during the development of this analysis report, the effects of this new activity will not be significant, considering the mitigation and follow-up measures that will be implemented. However, the Agency is of the view that in-person consultations with the Cree Nation of Nemaska are important to complete the analysis and determine if other changes to the Decision Statement should be recommended.

3.2.2 Relocation of the final effluent discharge pipe

At the time of issuance of the 2015 Decision Statement, the proposed route for the final effluent discharge pipe included a portion of the terrestrial environment and a discharge point into Lac des Montagnes. The initial underwater pipe ran for 1.4 kilometres in the littoral zone, at a depth of approximately 14 metres. Following the Minister's decision in 2015, the Proponent continued discussions on the location of the final effluent discharge point with the tallymen of lots R-19 and R-20 and their families, and representatives of the Nemaska Band Council. In response to their requests, the Proponent relocated the discharge point for the mine's final effluent to the Nemiscau River, upstream of the Route du Nord and the adjacent Cree camps.

According to the Proponent, the modified route for the pipe runs southwest of the waste rock and tailings pile towards the Nemiscau River (see Figure 2 in Appendix). The new pipe will be 1.54 km long, with the first 1.43 km located above ground. The Proponent also indicated that this portion of the pipe could be buried if it is found to restrict access to the area. The above-ground portion is followed by a 65-metre portion of discharge pipe that will be buried and backfilled on the river's shoreline and in the first portion of the littoral zone. The last 50 metres of the discharge pipe will be placed directly on the riverbed and held in place with anchor blocks. The final



discharge point will be located at a depth of 13 metres and will be equipped with a diffuser. The burial of the discharge pipe on the shore and in the littoral zone and the placement and anchoring of the final portion of the pipe on the riverbed were completed in August 2018.

The Proponent submitted a request for review of this work to DFO in May 2018. DFO concluded that no authorization or permit was required under the *Fisheries Act* nor the *Species at Risk Act*.

It should be noted that the Whabouchi Mine Project would be subject to the *Metal and Diamond Mining Effluent Regulations* (MDMER) if it met the following two conditions (s. 2(1)(a)):

- the mine's effluent exceeds a flow rate of 50 m³ per day, based on the effluent deposited from all the final discharge points of the mine, and
- it deposits a deleterious substance in any water or place referred to in subsection 36(3) of the *Fisheries Act*.

The Proponent informed the Agency that it has obtained the required authorizations from the province for the relocation of the final effluent discharge pipe.

The following analysis was undertaken to determine whether relocating the final effluent discharge pipe would result in adverse environmental effects on the valued components and whether these effects would require changes to the conditions in the Decision Statement.

3.2.2.1 Proponent analysis

As part of its analysis, the Proponent has compared the potential environmental effects of the proposed new location of the mine's final effluent discharge point (in the Nemiscau River) with the effects identified for the location (in Lac des Montagnes) initially selected in the Project authorized in 2015.

The Proponent states that the effects on the atmospheric environment, acoustic environment and physical and cultural heritage would be the same since the same machinery would be used to carry out the construction of the pipe in terrestrial and aquatic environments. With regard to the effects on surface water, the Proponent states that modelling studies have shown that the dilution rates would meet the existing MELCCFP criteria at both effluent discharge points (old and new locations).

According to the Proponent, for terrestrial environments, migratory birds and species at risk, the adverse environmental effects may be more significant than those identified in its initial assessment.

The site clearing and construction work required to install the above-ground portion of the effluent pipe (approximately 1.43 km) would result in the loss of disturbed and undisturbed terrestrial environments, including former gravel pits that were revegetated by Hydro-Québec, burned areas, and black spruce and jack pine



stands. The loss of these terrestrial environments would result in an area of habitat loss larger than that predicted in the initial scenario (discharge into Lac des Montagnes). In terms of anticipated effects, the Proponent also states that the site clearing and pipe installation work could affect birds, notably causing the mortality of young and the destruction of eggs and nests if it is done during the nesting season. In addition, the noise could disturb pairs of birds nesting near the work site. No wetlands would be affected by this activity. In addition, the areas consisting of former gravel pits and burns where portions of the pipe would be installed represent suitable habitat for the common nighthawk, the olive-sided flycatcher and the bank swallow, three species at risk listed under the *Species at Risk Act*. According to the Proponent, these effects would be more significant than in the scenario involving discharge into Lac des Montagnes because a larger area of habitat would be lost. However, the Proponent states that the mitigation measures proposed in the 2013 impact assessment (Nemaska Lithium, 2013) and those included in the ESMP will minimize the impacts on migratory birds and their habitats.

According to the Proponent, the site clearing and installation of the effluent pipe would also result in the loss of potential habitat for the little brown myotis and the Northern myotis, two species listed as endangered on Schedule 1 of the *Species at Risk Act*. Noise- and light-generating activities could affect their behaviour and scare them away. The Proponent considers that the effects will be more significant than those identified in the initial scenario.

With regard to the effects on fish and fish habitat, the Proponent states that the section of pipe placed on the river bed and weighted with anchor blocks caused the permanent alteration of 20 square metres of fish habitat. The buried section of pipe caused a temporary alteration of 1,375 square metres of habitat. The Proponent notes that the effluent discharge area is not a diverse habitat, has no aquatic vegetation, and has no or little potential for spawning, rearing and feeding. The aquatic grass beds on the left bank and the swamp on the right bank would be avoided. Modelling of the final effluent plume shows that the left bank will be most affected, with a maximum concentration of 0.6%. The right bank and the swamp will receive a concentration of less than 0.1%. In addition, the Proponent pointed out that a diffuser positioned at the discharge point in the river will help to ensure rapid dilution of the final effluents that are released there. The Proponent also points out that the pipe will be used from May to November, unless exceptional operational or meteorological conditions make it necessary to discharge effluents in winter. During the winter, the Proponent will purge the pipes and lower the water level in the basins to prevent the pipes from freezing. The Proponent's proposed monitoring of the quality of surface water and the effluent itself, sediment and benthos, and heavy metal concentrations in the flesh and livers of fish will be maintained in order to establish the necessary measures to protect the receiving environment for the final effluent. The Proponent considers that the effects on fish and fish habitat are less significant than those associated with the location in the initial plan because of the reduced length of the pipe in the littoral environment.



With regard to the current use of the land and resources for traditional purposes as well as human health, the Proponent states that the new route makes it possible to respond to the concerns of area users whose vacation and fishing activities in the Bible Camp sector may have been affected, in light of the concerns expressed in relation to the previous configuration. In addition, the proposed new location is farther away from the Cree camps.

As a result of its analysis, the Proponent has identified conditions that should be imposed in relation to the proposed relocation of the final effluent discharge pipe and has proposed the following changes to the Agency:

- Condition 3.3: The burial and installation of the portion of the pipe located in the Nemiscau River has already been completed.
- Condition 3.7.2: Must be modified to reflect the change in receiving environment, to the Nemiscau River instead of Lac des Montagnes.
- Condition 5.2: The new location in the Nemiscau River was determined in consultation with these partners;
- Condition 6.2.3: Add the Nemiscau River to the triennial monitoring program.

3.2.2.2 Agency's analysis and conclusions

The Agency is of the view that relocating the final effluent discharge pipe will affect a new receiving environment, since the discharge point is now located in the Nemiscau River. Some general effects associated with the construction of the mine site, such as loss of habitat due to site clearing and increased suspended solids in nearby watercourses, were identified in the Agency's Environmental Assessment Report and are governed by a set of conditions. However, some potential effects associated with the change in effluent discharge location differ from those identified for the Project authorized in 2015. These effects are detailed in the following paragraphs.

With regard to the Project's effects on groundwater, surface water and the atmospheric environment, ECCC is of the view that the effects would be similar to those described in the 2015 analysis, even though the receiving environment is different from the one in the original plan (Lac des Montagnes versus the Nemiscau River). Taking into account advice and input received from ECCC, the Agency concludes that the changes to these environmental components are not likely to have significant effects on the valued components.

The new receiving environment differs from the one originally identified, particularly from the standpoint of fish and fish habitat. The dynamics of a lake environment differ from those of a river environment. As for the species that are likely to be affected, since the Nemiscau River is a tributary of Lac des Montagnes, the fish species are largely the same, particularly species prized by fishers (Nemaska Lithium, 2013). However, longnose sucker



and lake sturgeon could frequent the Nemiscau River, according to the characterization report of aquatic habitats and fish carried out by the Proponent in the Nemiscau River as part of their impact assessment (Nemaska Lithium, 2013 and GCM Consultants, April 2022). In addition, the Proponent noted that the Nemiscau River has a high dilution potential given its strong flow, which would allow for good mixing conditions. Furthermore, as mentioned at the beginning of section 3.2.2, a request for review was submitted to DFO in May 2018 for the installation of the effluent pipe in the Nemiscau River. DFO advised the Proponent in June 2018 that no authorization nor permit under the *Fisheries Act* or *Species at Risk Act* was required. Finally, in the Agency’s more recent consultations with federal authorities in the fall of 2022, ECCC and DFO indicated that relocating the mine effluent discharge pipe in the Nemiscau River was not likely to result in additional effects beyond those assessed in 2015 and that no changes to follow-up requirements would be necessary.

Finally, the Agency has relied on the advice of these two federal authorities and concluded that the adverse effects associated with the relocation of the final effluent discharge pipe are sufficiently addressed by the current mitigation, follow-up and compensation measures, and therefore the effects on fish and fish habitat will not be significant. As a reminder, according to the Decision Statement, a monitoring program for water quality and an annual report are required. This annual report, submitted to the Agency, must include monitoring results, which must meet the requirements of the *Metal and Diamond Mining Effluent Regulations*. The Decision Statement will, however, need to be modified to reflect the changes related to the new location of the final effluent, as presented in Table 1. The Agency also recommends the addition of two species of fish to conditions 3.3 and 6.2.3, namely longnose sucker and lake sturgeon. DFO agrees with this addition and has specified to the Agency that the period of low risk to fish and their freshwater habitat remains the same for all species mentioned in the conditions. It should be noted that, since the Nemiscau River is a tributary of Lac des Montagnes, the Agency considers that Lac des Montagnes must be covered in the monitoring and follow-up program, as proposed by the Proponent.

Table 1: Summary of recommended amendments to the Decision Statement from the Agency regarding the relocation of the effluent discharge pipe

Original version (2015)	Proposed modified version (2023)
<p>3.3 The Proponent shall avoid the burial, installation and disassembly of the mine effluent discharge pipe in Lac des Montagnes during the critical timing windows for northern pike, walleye, white sucker, and lake whitefish, and shall take measures to control the release of suspended solids in the water during those construction activities.</p>	<p>3.3 The Proponent shall avoid the burial, installation and disassembly of the mine effluent discharge pipe in the Nemiscau River during the critical timing windows for northern pike, walleye, white sucker, lake whitefish, longnose sucker and lake sturgeon, and shall take measures to control the release of suspended solids in the water during those construction activities.</p>
<p>3.7.2 determining the effectiveness of effluent mitigation measures in managing effluent quality and effects on the receiving environment, including benthic organisms and fish in Lac des Montagnes.</p>	<p>3.7.2 determining the effectiveness of effluent mitigation measures in managing effluent quality and effects on the receiving environment, including benthic organisms and fish in the Nemiscau River.</p>



<p>5.2 In consultation with the Cree tallyman, the Cree Nation of Nemaska and the Cree Nation Government, the Proponent shall determine the optimal location of the effluent pipe in the Lac des Montagnes, taking into consideration the fishing areas of the Cree Nation of Nemaska.</p>	<p>5.2 In consultation with the Cree tallyman, the Cree Nation of Nemaska and the Cree Nation Government, the Proponent shall determine the optimal location of the effluent pipe in the Nemiscau River or Lac des Montagnes, taking into consideration the fishing areas of the Cree Nation of Nemaska.</p>
<p>6.2.3 monitoring, every three years, of heavy metal concentrations in the flesh and livers of walleye, northern pike and lake whitefish in Lac des Montagnes and Lac du Spodumène. The monitoring program shall be implemented when construction begins and end five years after the decommissioning phase is completed.</p>	<p>6.3.3 monitoring, every three years, of heavy metal concentrations in the flesh and livers of walleye, northern pike, lake whitefish, longnose sucker and lake sturgeon in Lac des Montagnes, the Nemiscau River and Lac du Spodumène. The monitoring program shall be implemented when construction begins and end five years after the decommissioning phase is completed.</p>

With respect to changes to terrestrial environments, the Agency notes that a larger area of these environments will be affected because of the increased length of the discharge pipe. A larger area of habitat will be lost but most of the loss would occur in already disturbed areas. If activities such as site clearing and stripping are carried out during the nesting period of migratory birds, they could cause incidental mortality (destruction of nests, eggs and chicks) and thus lead to a decrease in reproductive success and an increase in mortality among migratory birds. However, in response to the Agency's 2015 Environmental Assessment Report, the Proponent committed to carrying out the tree and brush clearing and site levelling work outside the breeding season of migratory birds and to ensuring the protection of active nests discovered during the work. The Agency notes that these effects are also governed by condition 4 set out in the Decision Statement. The application of this condition is intended to prevent or greatly reduce the risk of significant effects.

In addition, as mentioned in section 3.2.1.2 of this report, ECCC is of the view that certain wooded areas on the Project site have the potential for the presence of snags, which could serve as maternity or resting sites for species of bats designated at risk such as little brown myotis (*Myotis lucifugus*) and Northern myotis (*Myotis septentrionalis*). The Agency is of the view that the three new key measures mentioned in section 3.2.1.2 will make it possible to avoid adverse effects on these species and their habitats, caused by the remaining site clearing to be completed for the installation of the final effluent discharge pipe.

Apart from this last addition, ECCC is of the view that the anticipated effects remain substantially the same as those initially predicted and that the proposed mitigation, monitoring and follow-up measures, provided they are (and have been) implemented, are appropriate to reduce the risk of significant adverse environmental effects on the valued components. Based on ECCC's opinion, this change would not result in significant effects.

The Proponent had committed, during the development of the Agency's environmental assessment report in 2015, to implementing mitigation measures to reduce the effects of noise and light from the Project on certain animals, including bats. Although the relocation of the mining effluent could increase the potential effects due to noise and light, the Agency considers that these mitigation measures dating from 2015 remain valid.

With respect to adverse effects on human health, current use of lands and resources, and the socio-economic conditions of First Nations, the Agency verified whether the changes to air and water quality and fish and fish habitat could have additional effects or effects that differ from those in the initial assessment. ECCC considers that the effects on water quality would be similar to those previously assessed and DFO is of the same opinion with respect to effects on fish and fish habitat (as presented earlier). Lastly, according to HC, the changes related to the relocation of the effluent pipe are not likely to require any changes to the mitigation measures and follow-up program requirements set out in the Decision Statement. Therefore, on the basis of the views expressed by HC, DFO and ECCC, the Agency considers that it is unlikely that these changes will result in additional or more significant effects than those assessed in 2015, even if the final effluent discharge point is now located in the Nemiscau River. Furthermore, the Agency understands that the new location was determined in consultation with the tallymen of traplines R-19 and R-20, the Cree Nation of Nemaska and the Cree Nation Government. The Agency understands that the Nemiscau River is a preferable location to Lac des Montagnes in this case and that this change should minimize the effects on the current use of lands and resources for traditional purposes for users of traplines R-19 and R-20. However, the Cree Nation Government and the Cree Nation of Nemaska also mentioned that other tallymen or land users could be affected by the effects related to the relocation of the effluent.

In conclusion, based on the information available during the development of this analysis report, the Agency is of the view that the recommended changes to the current and existing conditions provide a framework to capture the effects of the activities related to the relocation and use of the final effluent discharge pipe. However, the Agency is of the view that in-person consultations with the Cree Nation of Nemaska are important in order to complete its analysis and determine whether additional effects could occur on current use of lands and resources, natural and cultural heritage, health and socio-economic conditions and rights of First Nations (see sections 4 and 5 of this analysis report). Following this analysis, the Agency will determine whether additional changes to the Decision Statement should be recommended.

3.2.3 Erection and use of a temporary construction camp on the mine site, including a sanitary waste water treatment system with surface discharge

During the Agency's environmental assessment (2015), the Proponent was planning on renting an existing camp managed by the Cree construction and development company Nemaska Eenou Construction (NEC), located at kilometre 291 of Route du Nord, 12 kilometres from the mine site, to accommodate its workers. The Agency had determined that the use of NEC's camp was not incidentally related to the Designated Project. The use of this camp was therefore not considered during the Agency's environmental assessment.



In the meantime, the Proponent determined that the accommodation needs would be more significant than initially expected. In order to meet the need to quickly provide lodging for workers and therefore prevent any delays in the Project, the Proponent proposed to build a temporary camp directly on the mine site. The construction of such a camp also includes a domestic waste water treatment plant, with surface discharge into Small Lake 31. In May 2023, given that the Proponent had resumed its construction activities, Nemaska Lithium requested that a treatment system for the temporary construction camp accommodating up to 350 workers be considered, i.e. a system treatment capacity of 87.5 m³/day.

Furthermore, the Proponent states that it has received the required provincial authorizations for the new temporary construction camp, including a domestic waste water treatment system. Figure 3 (see Appendix) shows the initial location planned for the camp at kilometre 291 and the location at the mine site authorized by provincial authorities in December 2018. Figure 4 (see Appendix) shows the location of the treatment system, the discharge pipe and the existing ditch upstream from Small Lake 31.

The purpose of the following assessment is to determine whether the erection of a temporary construction camp on the mine site, including sanitary waste discharge, would have adverse environmental effects, and whether these effects would require amendments to the conditions set out in the Decision Statement.

3.2.3.1 Proponent's assessment

In its assessment, the Proponent concluded that, overall, most of the potential environmental effects from the temporary construction camp are similar to or the same as the effects identified in the initial scenario, i.e., renting the existing camp from NEC. However, the Agency noted that, in the Proponent's assessment of the addition of a sanitary waste water treatment system for the camp, it compared the potential effects from a sanitary waste water treatment system for 350 workers with the effects of the current system at the site which is designed for 41 workers. The Project authorized in 2015 did not include an on-site camp for workers, and therefore did not include sanitary waste water treatment.

The Proponent stated that the effects on the atmospheric environment would decrease and that the residual effects would be lower with a temporary construction camp located at the mine site because workers would not have to travel back and forth between the mine site and the off-site camp that was initially rented.

The Proponent does not anticipate any effects from the construction of this camp on the terrestrial and wetland environments, the surface water and groundwater, or fish and fish habitat because the camp and treatment plant are built in an area that was cleared for the construction of the mine site and is more than 100 metres from any watercourse or water body. However, the Proponent stated that if the domestic waste water treatment plant did not comply with provincial discharge requirements, it could have an effect on surface water and fish



and fish habitat. In this regard, the Proponent pointed out that the selected technology (membrane bioreactor) is one of the most efficient technologies available, and that the system's water treatment performance is required to comply with the most stringent criteria, that is, the standards for membrane bioreactors and the MELCCFP'S environmental discharge objectives. The Proponent also stated that the follow-up requirements included in the ESMP for the domestic waste water treatment system in the Project would also apply to waste water treatment at the temporary camp.

With respect to migratory birds and species at risk, the Proponent stated that the activities at the site, including the presence of the temporary camp, may have an effect on migratory birds and bats; however, it considers that the residual effects remain the same as in the 2015 assessment given the application of the mitigation measures set out in the impact assessment and the ESMP. Because the land was already cleared, the Proponent maintained that the construction of the camp and the sanitary waste water treatment plant will not significantly affect the quality or the integrity of the natural environment.

The Proponent also pointed out that the erection of the construction camp, given its increased capacity of 350 people, could increase the noise levels in the area, but this effect would be temporary.

With regard to the current use of lands and resources for traditional purposes, the Proponent does not anticipate any residual effects due to the site's location. Furthermore, the Proponent stated that building the camp at the mine site may facilitate the supervision of workers interested in carrying out hunting and fishing activities on the land.

With regard to human health and the socio-economic conditions of First Nations, some effects may be felt if the provincial requirements for sanitary waste water discharge are not met. However, the Proponent pointed out that the location where the camp's sanitary waste water will be discharged, Small Lake 31, is not a drinking water source for First Nations and that no water is drawn from Lac du Spodumène, which is located downstream from Small Lake 31. Furthermore, the socio-economic benefits would accrue to the Cree partners responsible for erecting and operating the temporary camp.

Lastly, the archeological inventories and development work that were conducted at the mine site did not turn up any vestiges of human settlement predating the 1950s. The Proponent indicated that no amendments were required to the Decision Statement in relation to the erection of a temporary construction camp at the mine site including sanitary waste discharge.



3.2.3.2 Agency's analysis and conclusions

It should be noted that in the Agency's environmental assessment (2015), the location of an existing camp outside of the mine site was not considered as part of the Designated Project. However, following the analysis of the new incidental activities, the erection and use of a new construction camp on the mine site, including the discharge of sanitary waste water, are now included in the Designated Project.

With respect to the construction of the camp itself, the Agency considers that the effects related to this activity are not significant because it will be constructed directly at the mine site, and this new activity is now included with the construction activities that are already planned.

In general, ECCC is of the view that the anticipated effects of this new activity should not make any significant changes to its final advice and require changes to the conditions issued for the Project in 2015.

More specifically, with respect to the effects on air quality, ECCC considers that the advantage of having the camp located at the mine site is that workers do not need to commute between the camp and the mine site every day. The effects on air quality would therefore be reduced in terms of emissions of contaminants and greenhouse gases. However, the atmospheric emissions generated by the camp's heating system would be concentrated at the mine site, and would be closer to the Cree camps. ECCC is of the view that the contribution of these emissions to the atmospheric environment should not significantly change its final advice and require changes to the conditions already established to reduce the effects on air quality.

With respect to groundwater and surface water, ECCC stated that the erection of a temporary construction camp more than 100 metres from a watercourse or water body should not have a significant effect on surface water or groundwater, aside from the risks related to installing a sanitary waste water treatment unit covered in the Proponent's assessment.

Based on ECCC's advice, because of the sanitary discharges into Small Lake 31 and the risk of deleterious substances being released into the environment as a result of the breakdown or failure of the waste water treatment system (e.g., non-compliance with the MELCCFP discharge requirements), the Agency is of the opinion that effects on water quality could occur and could affect fish and fish habitat and human health of First Nations. However, the Proponent confirmed that the ESMP would apply to these discharges. The Agency is of the view that, with the implementation of the ESMP and rigorous monitoring of the MELCCFP's environmental discharge objectives, the potential effects on the valued components associated with surface water, including fish and fish habitat and human health of First Nations, are not significant.

With respect to the potential effects of sound and light on migratory birds and bat species at risk, while the initial plans did not include a camp at the mine site, the Agency has already covered this topic in its 2015 report. The



Agency recommended that the Proponent implement the proposed mitigation measures to reduce noise and light intensity disturbance that may be caused by the Project. These measures, among others, would help prevent harm to these species and to their recovery. While the construction and use of the camp may increase the potential effects due to noise and light, the Agency considers that its recommendations from 2015 remain valid.

Regarding the health and socio-economic conditions of First Nations, the Agency notes that the Cree partners responsible for setting up and operating the temporary camp would benefit from the socio-economic effects. However, the Cree Nation Government and the Cree Nation of Nemaska wish to provide some nuance in this regard. They point out that the construction of the camp on the site could have socio-economic effects on local stakeholders and that the Cree Nation of Nemaska would have benefited from greater economic benefits if the promoter's initial project (renting the existing camp at kilometre 291 of the Route du Nord) had been maintained.

Based on the information available, the Agency is of the view that the erection and use of the temporary construction camp and the treatment of waste water would not cause any significant new residual adverse environmental effects on the valued components. The Agency considers that the existing mitigation measures are sufficient and no conditions need to be changed. The Decision Statement already includes conditions that would help manage and reduce any potential adverse effects due to this new activity.

4. Potential impacts on the rights of Indigenous Peoples

The Agency must determine whether the changes to the Designated Project and related adverse environmental effects could have potential impacts on the rights of Indigenous Peoples. To do so, the Agency took into account comments from the Cree Nation Government and the Cree Nation of Nemaska obtained on the draft analysis report. The Agency held discussions with representatives of the Cree Nation of Nemaska on how to gather comments from members of the impacted First Nation community. It was agreed that face-to-face meetings would have been desirable. However, given the situation caused by the forest fires that raged at the time of the public consultations and the drafting of the final report, it was not possible for the Agency to hold consultations in person and thus meet members of the Cree Nation of Nemaska. The Agency therefore recognizes that the tallymen, their families and other users of the territory potentially affected by the changes to the Project have not had the opportunity to adequately express their concerns to the Agency. The Agency also recognizes the



importance of meeting in person with the tallymen, their families and the community in order to hear their concerns to take them into account in the analysis and recommendation of amendments to the Decision Statement. The Agency therefore is committed to travelling to Nemaska to consult on both current and future proposed changes to the Project. Thus, the Agency will take into account the concerns expressed on all the proposed changes to the Project to determine whether it should recommend additional amendments to the Decision Statement. In the event that these meetings cannot take place, the Agency will work with the Cree Nation of Nemaska and the Cree Nation Government to find alternative methods to gather comments, if applicable.

The changes to the Project are located on James Bay and Northern Quebec Agreement land, more specifically on trapline R-20 and near trapline R-19 in the Cree Nation of Nemaska.

According to the Agency's analysis, the changes made may potentially have adverse effects on the rights established under the *James Bay and Northern Quebec Agreement*.

With respect to the operation of the two borrow pits, the site clearing, nuisances related to the operation of heavy machinery and the transportation of granular materials may disturb wildlife and affect the tallyman of trapline R-20 and other users' traditional activities. However, the Agency noted that the borrow pits are located near the mine site, i.e., less than three kilometres away. According to ECCC, their use should not significantly alter atmospheric emissions, and the effects on migratory birds and species at risk should be basically the same as those identified in the 2015 environmental assessment. In addition, it should be noted that the Proponent committed to moving the tallyman's camp and those of other land users potentially affected by the operation of the borrow pits, upon request. Taking into account the information provided, the Agency considers that this commitment by the Proponent as well as the conditions in the Decision Statement and the proposed changes to them would accommodate any potential repercussions from this change to the Project (see Table 3 for the summary of recommended amendments to the Decision Statement).

With respect to the relocation of the final effluent discharge pipe, the Proponent indicated that the new route was determined in consultation with the tallymen of traplines R-19 and R-20, the Cree Nation of Nemaska and the Cree Nation Government in order to address the concerns of the land users. However, the Cree Nation Government and the Cree Nation of Nemaska have raised with the Agency that it would be important for the concerns of tallymen, their families and community members to be heard by the Agency. They also pointed out that it is possible that other traplines could be affected by the relocation of the effluent. The Agency is therefore of the view that in-person consultations with the members of the Cree Nation of Nemaska are important to determine whether this change to the Project is likely to have repercussions on the tallymen already identified or on other land users.



Lastly, with respect to the construction and use of a temporary camp at the mine site, the Agency noted that the new camp is located at the mine site and that its contribution to atmospheric emissions is not predicted to be significant. It also notes that, according to the Cree Nation Government and the Cree Nation of Nemaska, this option could have socio-economic effects on local stakeholders. The Agency is therefore of the view that in-person consultations will make it possible to better understand the repercussions of this change on the community and thus to be able to better define the impacts on rights, if any.

The Agency therefore commits to travelling to Nemaska to consult the community on both current and future proposed changes to the Project. In doing so, the Agency will take into account the concerns expressed on all proposed changes to the Project to determine whether it should recommend additional amendments to the Decision Statement and associated conditions. In the event that these meetings cannot take place, the Agency will work with the Cree Nation of Nemaska and the Cree Nation Government to find alternative methods to gather comments, if applicable.

5. Consultations

5.1 Proponent's consultations

5.1.1 Operation of two borrow pits and transportation of materials to the mine site

The Proponent sent a letter to the tallyman of trapline R-20 and his brother in December 2016 to notify them of the location and operation of the new borrow pits and to collect their feedback. Verbal exchanges and discussions also took place, namely within the Whabouchi Project's Environment Committee. Following these exchanges, a few technical questions were asked and answered, namely concerning the specific location of the borrow pits, the estimated date for obtaining the leases issued by the Quebec Department of Energy and Natural Resources and the completion of work. In addition, during the meeting of the Environment Committee of the Whabouchi Project on June 14, 2023, the question was raised of moving the tallyman's camp in the event that the continued operation of the BB-07 borrow pit would harm to the tallyman's quality of life. The Proponent has committed to moving the tallyman's camp and the camp of other potentially affected land users upon request. According to information from the Proponent, the tallyman and the Environment Committee did not raise any other issues related to the creation of the borrow pits, namely because the selected sites are either



directly adjacent to the mine site or in a burn area adjacent to an old Hydro-Québec gravel pit. The Cree Nation Government and the Cree Nation of Nemaska remind us that the Environment Committee is not an advisory body and that the opinions of this committee and its members do not in themselves constitute consultation of the community and its members.

5.1.2 Relocation of the final effluent discharge pipe

Since the provincial public hearings on the Whabouchi Project were held in Nemaska in March and April 2015, the tallyman of trapline R-20 and his family have expressed concerns regarding the location of the pipe that will discharge the final effluent into Lac des Montagnes. This area is highly valued and used by local people, and would not be a suitable place to discharge the final mine effluent. The reasons provided are as follows: the underwater pipe could be visible due to the lake's shallow depth in the Bible Camp area; the effect of the effluent discharge on the thickness of the ice cover, which could make it impossible to cross the lake on snowmobiles; and the risks related to the work of installing the pipe, considering the conditions that characterize the lake (strong waves, current, etc.). Following these discussions, the Proponent resumed its search for alternatives to this site. Discussions also took place with the tallyman of trapline R-20 and his family and the tallyman of trapline R-19. The Cree Nation Government and experts from the MELCCFP were also involved in the process of identifying alternatives. In winter 2016–2017, the tallyman of trapline R-20 suggested that the final effluent discharge pipe be relocated to the Nemiscau River, upstream from the Cree camps. In May 2017, the Environment Committee organized a meeting with the R-20 and R-19 families and representatives from the Cree Nation of Nemaska and the Cree Nation Government to discuss this proposal. It was decided by those present that the proposed site in the Nemiscau River was preferable to the one in Lac des Montagnes. The Cree Nation Government and the Proponent also had discussions in 2019 concerning the environmental monitoring program for fish.

5.1.3 Erection of a temporary construction camp on the mine site, including a sanitary waste water treatment system with surface discharge

The Proponent stated that on several occasions between 2017 and 2019 the Environment Committee had considered the initial plan to use the existing workers' camp at kilometre 291. According to the Proponent, this camp was considered problematic, mainly due to its insufficient capacity. The Proponent suggested that the camp be set up on the mine site. Some concerns had also been raised during the 2015 environmental assessment process, regarding the supervision of workers who might be interested in fishing and hunting. The



erection of the construction camp at the mine site would allow for better control of workers' comings and goings and therefore their hunting and fishing activities.

In addition, the contract for the new temporary construction camp at the mine site was also the subject of discussions. Given the challenges that arose in relation to the contract, the Proponent suggested using the conflict resolution process included in the Chinuchi Agreement between the Cree Nation of Nemaska, the Cree Nation Government, the Grand Council of the Crees and the Proponent. The members of the Environment Committee stated that Cree from Nemaska should be given priority for jobs that involve cleaning, food service and maintenance on the camp buildings.

With respect to the sanitary waste water treatment system with surface discharge, the Environment Committee held discussions concerning the type of systems to install, changes to the environmental monitoring program and certain issues related to winterizing the domestic waste water treatment unit. The Proponent stated that, in December 2022, the Environment Committee also discussed the increase in the treatment system's capacity to 350 workers.

5.2 Agency's consultations

The Agency consulted the Cree Nation Government, the Cree Nation of Nemaska, federal authorities and the public on the changes to the Project. The Agency held a public consultation period from June 6 to July 5, 2023 to gather comments on this report and the proposed changes to the Decision Statement. The information collected during these consultations is presented below.

5.2.1 Indigenous consultations

Given that the Project is located on land covered by the James Bay and Northern Quebec Agreement, the Agency has been working with the Cree Nation Government to assess the changes to the Whabouchi Mine Project made by the Proponent. The Agency and the Cree Nation Government have had several exchanges (emails, letters, telephone calls and virtual meetings) as part of this assessment.

In addition, the Agency has shared the Proponent's information on the changes with the Cree Nation of Nemaska and requested feedback on these changes and on the Agency's interim analysis report. Several exchanges (emails, letters, phone calls and virtual meetings) took place between the Agency and representatives of the Cree Nation of Nemaska as part of this analysis. Due in particular to the circumstances



related to the forest fires raging in the region, only written comments were sent to the Agency and no direct consultation with community members or potentially affected tallymen took place.

Given that the changes to the Project analyzed in this report were partly carried out by the Proponent and that the Proponent and other authorities (in accordance with provincial procedures) had already consulted or intended to consult the Cree Nation of Nemaska regarding these amendments and others to come, it has been difficult for the Cree Nation of Nemaska and the Cree Nation Government to provide comments in the context of this analysis. Furthermore, it was not possible for the Agency to consult the Cree Nation Government and the Cree Nation of Nemaska before these modifications were made. The in-person consultations are intended to remedy this situation.

The Agency also recognizes that it is important to meet in person with the tallymen, their families and the community in order to hear their concerns and take them into account in its analysis. The Agency therefore commits to travelling to Nemaska as part of consultation on future proposed changes to the Project and to consult the community on both current and future changes. Thus, the Agency will take into account the concerns expressed on all the proposed changes to the Project to determine whether it should recommend additional amendments to the Decision Statement and associated conditions. In the event that these meetings cannot take place, the Agency will work with the Cree Nation of Nemaska and the Cree Nation Government to find alternatives to gather comments, if applicable.

5.2.2 Consultations with federal authorities

On September 6, 2022, the Agency sought the expertise of DFO, HC and ECCC regarding the changes made to the Project by the Proponent.

Additionally, during the public consultation period held from June 6 to July 5, 2023, these federal authorities, as well as NRCan, had the opportunity to provide comments on the draft version of the analysis report and the proposed amendments to the Decision Statement. Their comments have been taken into consideration during the finalization of the current analysis report and proposed amendments to the Decision Statement recommended to the Minister.

Table 2 summarizes the comments received from federal authorities.



Table 2: Summary of comments received from federal authorities regarding the changes to the Project

Federal Authority	Summary of comments
Fisheries and Oceans Canada (DFO)	DFO is of the opinion that the changes to the Project are not likely to cause any additional effects to fish and fish habitat. Any changes to the follow-up program requirements set out as conditions in the Decision Statement do not appear necessary at this stage in the Project.
Health Canada (HC)	Health Canada is of the view that the changes to the Project are not likely to require changes to the mitigation measures and follow-up program requirements that are in the Decision Statement.
Environment and Climate Change Canada (ECCC)	<p>With regard to the operation of the borrow pits, ECCC is of the opinion that, because the borrow pits are near the mine site, they should not cause any significant changes to the atmospheric environment. The proposed mitigation, monitoring and follow-up measures are appropriate considering the measures that are already planned and those included as conditions in the Decision Statement. With regard to groundwater and surface water, ECCC is of the opinion that it would be relevant to include three key measures as conditions in the Decision Statement:</p> <ul style="list-style-type: none"> • Materials must be extracted at least one metre above the water table. • No maintenance may be performed on any machinery in the borrow pits. • No petroleum products (gasoline, diesel, motor oil, hydraulic oil, etc.) or hazardous waste (waste oil, waste solvents, etc.) may be stored or managed at the borrow pit sites. <p>With respect to the effects of site clearing on little brown myotis and Northern myotis, ECCC is of the view that it would be important to include three key measures in the conditions of the Decision Statement:</p> <ul style="list-style-type: none"> • Carry out site clearing activities outside of the breeding season of these species, which generally runs from June 1 to July 31; • If clearing work is carried out during the breeding season of these species, monitoring should be carried out to check for the presence of maternity units; and • In the event of a maternity site being discovered, additional measures should be implemented, such as the establishment of a buffer zone. <p>With regard to the relocation of the final effluent discharge pipe, the impacts of the installation work for the aboveground pipe should be similar to the impacts of installing the initially planned pipe. Changing the location of the final discharge point should therefore not have any significant impacts on the atmospheric environment. The anticipated impacts on the water from the change in location will be different, but would not be more significant than those anticipated for Lac des Montagnes. With regard to the installation of a new pipe, all of the measures presented must be rigorously applied to ensure their effectiveness in protecting surface water and groundwater.</p> <p>With regard to the erection and use of a temporary construction camp at the mine site, the anticipated impacts from the change in location of the workers' camp should not change the final advice and require changes to conditions already issued for the Project.</p> <p>With regard to the impacts of the Project changes on the biological components, ECCC has noted that several of the activities that can cause impacts to species at risk have already been carried out. A large portion of the impacts attributable to these activities would therefore already have occurred, such as those related to clearing, brush cutting, stripping and levelling activities at the sites. ECCC is of the opinion that the changes to the Project do not affect the observations and recommendations made in ECCC's final advice issued for this Project in February 2015. The effects remain mostly the same and the mitigation, monitoring and follow-up measures proposed, provided they are or have been implemented, are appropriate for reducing the risk of causing significant adverse environmental effects.</p>



Natural Resources Canada (NRCan)	The operation of the borrow pits would not require additional measures or monitoring of the effects on groundwater since it is carried out more than one metre above the water table.
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5.2.3 Public consultation

During the public comment period on the draft report and the proposed amendments to the 2015 Decision Statement, the Agency received comments from the organization Eau Secours regarding the operation of the borrow pits and the relocation of the final effluent. Their concerns and comments related, among other things, to the monitoring of the water quality at the outlet of the mining effluent, as well as to the operation of the borrow pits, which should be done more than one metre from the level of the high water table. Their comments were considered in finalizing this analysis report and the modifications to the Decision Statement recommended to the Minister.

6. Conclusion

The Agency has assessed the new activities added to the Designated Project, namely the creation of two new borrow pits (including transportation of materials) and the creation of a temporary construction camp at the mine site (including sanitary discharge). It has also assessed a change to one activity: the relocation of the effluent discharge pipe. Following the analysis of these changes to the Designated Project by the Proponent:

- The Agency does not recommend changing the wording of the project description as requested by the Proponent because it implies increases in daily ore production and in the Project's lifetime, for which no analysis of effects has been submitted to the Agency. This request must be submitted at a later date as a separate request for changes to the Project.
- The Agency concludes that the new activities added to the Designated Project and the modified activity are not likely to cause significant adverse environmental effects, taking into account the existing conditions in the Decision Statement and the conditions the Agency recommends adding or modifying.
- In light of the information available at the time of writing this report, the Agency believes that in-person consultations with the Cree Nation of Nemaska are important to determine whether the Project changes are likely to have additional impacts on rights resulting from the *James Bay and Northern Quebec Agreement* and recommend, if necessary, additional amendments to the Decision Statement.
- The Agency recommends the following amendments to the Decision Statement (see Table 3):



- Amend condition 1.9 to include the changes to the Project as described in the Description of the Designated Project, in order for the existing and proposed conditions to apply to the new project components;
- Adjust condition 2.5 to change the deadline for the annual monitoring and follow-up report;
- Add conditions 2.9 and 2.10 to ensure that the Proponent will notify the Agency and the Cree Nation Government of any upcoming changes to the Project before they are implemented. The addition of these two conditions will help determine whether it is necessary to make any modifications to the conditions set out in the Decision Statement before those changes are carried out and to ensure that the assessment process for requested Project changes is in keeping with the most recent decision statements;
- Add condition 6.2 to reduce certain effects associated with the operation of the borrow pits;
- Modify conditions 3.3, 3.7.2, 5.2 and 6.2.3 to reflect the changed location of the final effluent discharge pipe; and
- Add condition 8.1 to reduce the negative effects associated with site clearing on little brown myotis and Northern myotis and their habitat.

Table 3 presents the recommended additions and amendments to the Decision Statement as a result of the changes made to the Project.

Table 3: Summary of recommended amendments to the Decision Statement from the Agency

Original version (2015)	Proposed modified version (2023)
<p>Description of the Designated Project Nemaska Lithium Inc. is proposing to construct, operate and decommission an open-pit surface and underground spodumene mine for the purpose of producing lithium. The Designated Project is located 30 kilometres from Nemiscau and 280 kilometres north-northwest of the municipality of Chibougamau. As proposed, the Designated Project includes the operation of an open-pit and underground mine, a waste and tailings impoundment area, an ore concentrator, and administrative and maintenance buildings. The mine would have a production capacity of approximately 3,000 tonnes per day over an estimated mine life of 26 years.</p>	<p>Description of the Designated Project Nemaska Lithium Inc. is proposing to construct, operate and decommission an open-pit surface and underground spodumene mine for the purpose of producing lithium. The Designated Project is located 30 kilometres from Nemiscau and 280 kilometres north-northwest of the municipality of Chibougamau. As proposed, the Designated Project includes the operation of an open-pit and underground mine, a waste and tailings impoundment area, an ore concentrator, two borrow pits and administrative and maintenance buildings. The mine would have a production capacity of approximately 3,000 tonnes per day over an estimated mine life of 26 years.</p>
<p>1.9 Designated Project – means the Whabouchi Mine Project as described in documents provided by the Proponent to support the environmental assessment under the <i>Canadian Environmental Assessment Act, 2012</i> (Canadian Environmental Assessment Registry Reference Number 80021).</p>	<p>1.9 Designated Project – means the Whabouchi Mine Project as described in documents provided by the Proponent to support the environmental assessment under the <i>Canadian Environmental Assessment Act, 2012</i> and the Agency’s analysis report from August 2023 titled <i>Analysis of Changes Made by Nemaska Lithium to the Whabouchi Mine</i></p>



	Project (Canadian Impact Assessment Registry Reference Number 80021).
2.5 The Proponent shall, from the reporting year where construction starts, submit to the Agency an annual report, including an executive summary of the annual report in both official languages. The annual report shall be submitted by the Proponent no later than October 31 following the reporting year. The Proponent shall document in the annual report [...]	2.5 The Proponent shall, from the reporting year when construction starts, submit to the Agency an annual report, including an executive summary of the annual report in both official languages. The annual report shall be submitted by the Proponent no later than April 30 following the reporting year to which the annual report applies . The Proponent shall document in the annual report [...]
New condition	2.9 If the Proponent is proposing to carry out the Designated Project in a manner other than described in condition 1.9, the Proponent shall notify the Agency and the Cree Nation Government in writing in advance of carrying out the proposed activities. As part of the notification, the Proponent shall provide: 2.9.1 a description of the proposed change(s) to the Designated Project and the environmental effects that may result from the change(s); 2.9.2 any modified or additional measure to mitigate any environmental effect(s) that may result from the change(s) and any modified or additional follow-up requirements; and 2.9.3 an explanation of how, taking into account any modified or additional mitigation measure referred to condition 2.9.2, the environmental effects that may result from the change(s) may differ from the environmental effects of the Designated Project identified during the environmental assessment.
New condition	2.10 The Proponent shall submit to the Agency and the Cree Nation Government any additional information required by the Agency about the proposed change(s) referred to in condition 2.9, which may include the results of consultation with Indigenous groups and relevant authorities on the proposed change(s) and environmental effects referred to in condition 2.9.1 and the modified or additional mitigation measures and follow-up requirements referred to in condition 2.9.2.
3.3 The Proponent shall avoid the burial, installation and disassembly of the mine effluent discharge pipe in Lac des Montagnes during the critical timing windows for northern pike, walleye, white sucker, and lake whitefish, and shall take measures to control the release of suspended solids in the water during those construction activities.	3.3 The Proponent shall avoid the burial, installation and disassembly of the mine effluent discharge pipe in the Nemiscau River during the critical timing windows for northern pike, walleye, white sucker, lake whitefish, longnose sucker and lake sturgeon , and shall take measures to control the release of suspended solids in the water during those construction activities.
3.7.2 determining the effectiveness of effluent mitigation measures in managing effluent quality and effects on the receiving environment, including benthic organisms and fish in Lac des Montagnes.	3.7.2 determining the effectiveness of effluent mitigation measures in managing effluent quality and effects on the receiving environment, including benthic organisms and fish in the Nemiscau River ;
5.2 In consultation with the Cree tallyman, the Cree Nation of Nemaska and the Cree Nation Government, the Proponent shall determine the optimal location of the effluent pipe in Lac des Montagnes, taking into consideration the fishing areas of the Cree Nation of Nemaska.	5.2 In consultation with the Cree tallyman, the Cree Nation of Nemaska and the Cree Nation Government, the Proponent shall determine the optimal location of the effluent pipe in the Nemiscau River or Lac des Montagnes, taking into consideration the fishing areas of the Cree Nation of Nemaska.
6.2.3 monitoring, every three years, of heavy metal concentrations in the flesh and livers of walleye, northern pike and lake whitefish in Lac des Montagnes and Lac du Spodumène. The monitoring program shall be implemented when construction begins and end five years after the decommissioning phase is completed.	6.3.3 monitoring, every three years, of heavy metal concentrations in the flesh and livers of walleye, northern pike, lake whitefish, longnose sucker and lake sturgeon in Lac des Montagnes, the Nemiscau River and Lac du Spodumène. The monitoring program shall be implemented when construction



	begins and end five years after the decommissioning phase is completed.
New condition	<p>6.2 The Proponent shall develop and implement, during all phases of the Designated Project, measures to avoid any potential effects to surface water and groundwater quality from the Designated Project. In doing so, the Proponent shall:</p> <p>6.2.1 extract materials from the borrow pits at least one metre above the high water mark of the water table;</p> <p>6.2.2 maintain vehicles and equipment outside of the borrow pits; and</p> <p>6.2.3 store petroleum products and residual hazardous materials outside of the borrow pits and in designated areas.</p>
New condition	<p>8.1 The Proponent shall conduct site clearing activities in the Project area outside of the breeding period for little brown myotis (<i>Myotis lucifugus</i>) and Northern myotis (<i>Myotis septentrionalis</i>) which extends from June 1st to July 31st. If the Proponent must conduct site clearing activities in the Project area during the breeding period, the Proponent shall:</p> <p>8.1.1 conduct, through a qualified individual, and in consultation with Indigenous groups and relevant authorities, monitoring to determine the presence of maternity sites and resting sites of males for little brown myotis (<i>Myotis lucifugus</i>) and Northern myotis (<i>Myotis septentrionalis</i>) within the Project area taking into account Québec's <i>Recueil des protocoles standardises pour l'inventaire des colonies estivales de chauves-souris au Québec</i> prior to any site clearing activity; and</p> <p>8.1.2 if maternity sites or resting sites for little brown myotis (<i>Myotis lucifugus</i>) and Northern myotis (<i>Myotis septentrionalis</i>) are identified in accordance with condition 8.1.1, establish buffer zones and implement protective measures taking into account the guide <i>Best Management Practices Guidelines for Bats in British Columbia, Chapter 2 : Mine Developments and Inactive Mine Habitats</i>.</p>



7. References

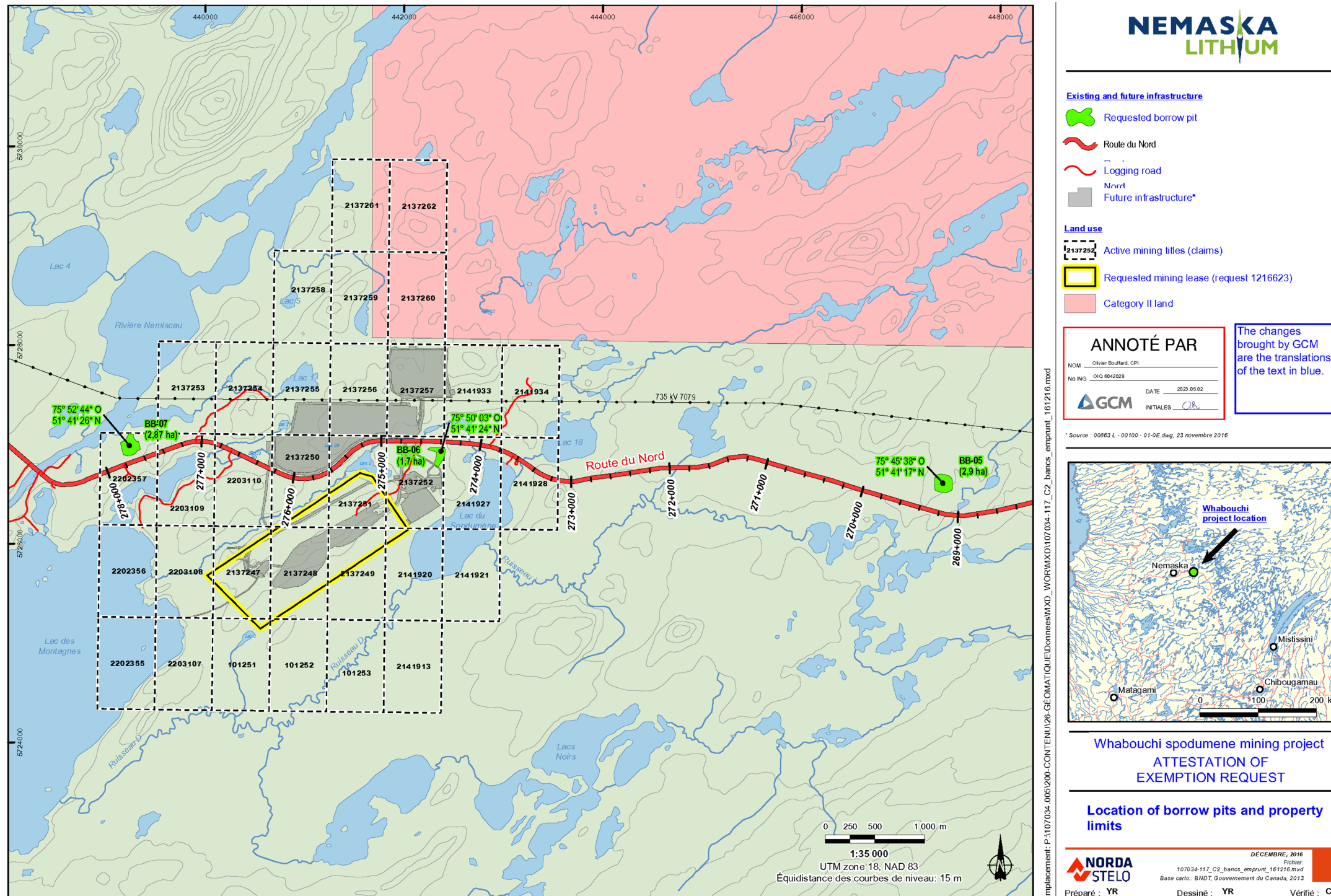
GCM Consultants. April 2022. Modifications to the Whabouchi Mining Project – Nemaska Lithium – Responses to the Request for Clarifications from the Impact Assessment Agency of Canada. Report developed for Nemaska Lithium. 49 pages + annexes.

GCM Consultants. May 2023. Modifications to the Whabouchi Mining Project – Addendum – Responses to the Request for Clarifications from the Impact Assessment Agency of Canada. Report developed for Nemaska Lithium. 12 pages + annexes.

Nemaska Lithium. 2013. Whabouchi Project – Development and Operation of a Spodumene Deposit in the James Bay Territory. Environmental and Social Impact Assessment. Consulted online: <https://iaac-aeic.gc.ca/050/documents/p80021/94895E.pdf>

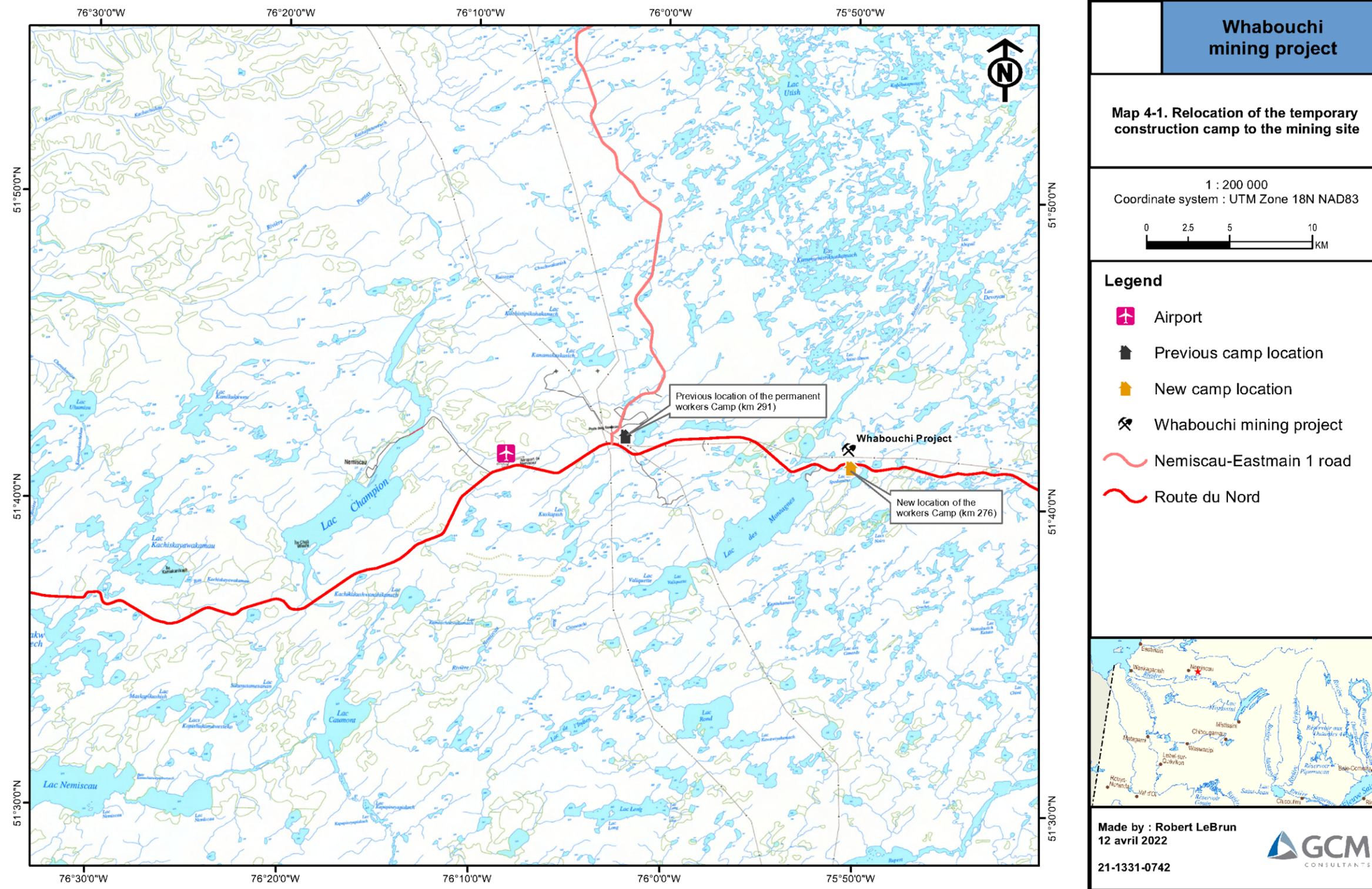
Appendix

Figure 1: Location of borrow pits



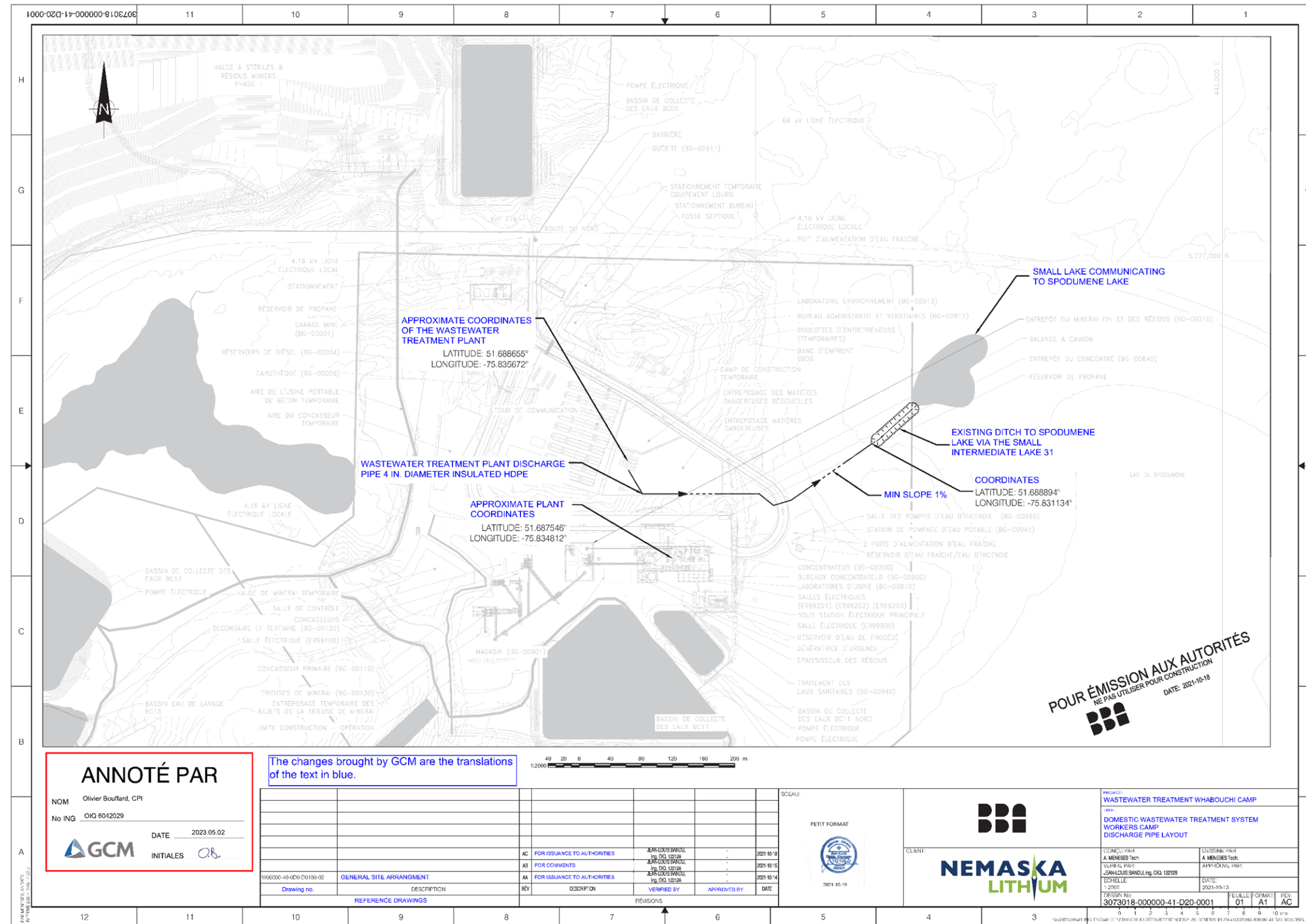
Source : Norda Stelo, 2016

Figure 3: Erection of a temporary construction camp at the mine site



Source : GCM Consultants, 2022

Figure 4: Location of sanitary waste water treatment system



Source : GCM Consultants, 2022