

JAMES BAY LITHIUM MINE

SUMMARY OF THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY

JULY 2022





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GALAXY LITHIUM (CANADA) INC.

PROJECT NO.: 201-12362-00
DATE: JULY 2022



Presented to:

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1 PROJECT SUMMARY

1.1 FOREWORD

An Environmental Impact Assessment (EIA) was prepared by WSP (2018a) and filed with the Canadian Environmental Assessment Agency (CEAA) and the *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques* (MDDELCC) in October 2018. In parallel with the EIA analysis process by the federal and provincial authorities, an optimization of the project design was carried out. Additional studies have also been prepared to address the comments or the interrogations of the various government authorities or to acquire a better knowledge of the host territory and thus better define the project, as well as the effects of the project on the environment. A second version of the EIA has therefore been prepared. Major changes from the 2018 summary are highlighted using a different font (Verdana) and presented in bold.

The title of the project is: “James Bay Lithium Mine”. Thus, on the maps, the project site is identified by its official title. It should be noted that the mine is non-existing.

1.2 PROJECT LOCATION

The James Bay Lithium Mine project is in the Nord-du-Québec administrative region in the Eeyou Istchee James Bay territory. It is located approximately 10 km south of the Eastmain River and 100 km east of the James Bay. The project is on Category III lands of the James Bay Northern Quebec Agreement. The lands subjected to the mining claim of the James Bay Lithium Mine project are easily accessed by the **Billy-Diamond Road (formerly James Bay Road)**. This road crosses the James Bay property at kilometre 381, close to the truck stop managed by the *Société de Développement de la Baie-James* (SDBJ). The regional project location is shown on Map 1.

1.3 GENERAL PROJECT DESCRIPTION AND IDENTIFICATION OF THE MAIN CHANGES COMPARED WITH 2018

The following infrastructures are planned for the James Bay Lithium Mine project. These are conventional facilities for an open pit mining operation (Map 1). They include the following:

- a pit;
- an industrial sector;
- areas to stockpile material;
- water retention basins;
- administrative and operations buildings;
- work camp;
- water treatment plant (WTP);
- maintenance facilities including warehouses, laboratories and emergency services;
- explosives magazine.

The material will be mined from a pit using drill rigs and blasting. Excavators will be used to load large mining trucks that will carry the material for processing in the concentrator in the industrial area. The overburden and waste rock will be transported to their designated stockpiles.

The onsite treatment will consist of a spodumene concentration process. The concentrator will allow for the separation of the material to obtain spodumene concentrate (product). The selected process involves the crushing of the ore followed by a physical separation.

Areas to stockpile and store material will be built at the project site. Materials that require stockpiles are: run of mine (ROM), waste rock and filtered tailings, spodumene concentrate, overburden and topsoil. **Four combined stockpiles will be built to store the waste rock and tailings, in addition to a ROM storage stockpile and a stockpile for the overburden and topsoil. All storage areas are designed to minimize the environmental impacts.**

Water is used throughout the plant to wash and rinse the material. It will be recovered and recycled using dewatering screens, tails thickener and tails filtration. Recirculation of the water will be facilitated by the fact that no chemicals are present in the tailings. Water will be taken from the main water retention basin as needed. **Runoff water from the site will be directed to water storage ponds. The effluent will be treated before being discharged into the natural environment, in accordance with applicable federal and provincial requirements.**

The collection and sorting of reusable, recyclable and waste materials (whether harmless or hazardous) will be carried out on-site. Waste will then be managed by specialized and authorized contractors and transported off-site to a certified disposal site or toward appropriate services, **outside the limits of the project site.**

Additional infrastructure related to the development and to ensure proper management of the site will be required, namely:

- an administrative and operations building;
- an autonomous work camp;
- a tank farm for the fuelling of the machinery, for heating purposes and for backup generators.

Galaxy is planning to connect the mining site to Hydro-Québec's power distribution system, **by a 69 kV power line. This will require up to 11 km of additional powerlines, depending on the route established by Hydro-Québec. The site will also be connected to the optic fiber or cellular data network.**

Following the end of mining operations, rehabilitation measures will be taken to bring the receiving environment **in a state compatible with the surrounding environment and its original state. These measures will involve the management of the mining complex, waste rock, tailings and water from the treatment, as well as the dismantling of infrastructures and the administrative and ore processing facilities.** A progressive rehabilitation approach will be deployed.

Galaxy plans to start construction works at the mine **in 2023** for its commissioning in **2024**. According to the latest estimate, the mine will be in operation during **18,5 years**.

The project has been subject to some modifications following the 2018 EIA (Map 2), the main ones concern:

- **storage areas: development of four waste rock and tailings piles instead of a single stockpile in 2018, relocation of the overburden and topsoil stockpile compared to 2018;**
- **the larger size and fewer number of trucks to transport concentrate and trucks used to carry the ore to the crusher compared to 2018;**
- **haul roads which favor shorter trips compared to 2018;**
- **the location of the concentrator, the workers' camp and the service building, which are now closer to the Billy-Diamond road compared to 2018;**
- **the location of the explosives warehouse, which was moved further northwest compared to 2018.**

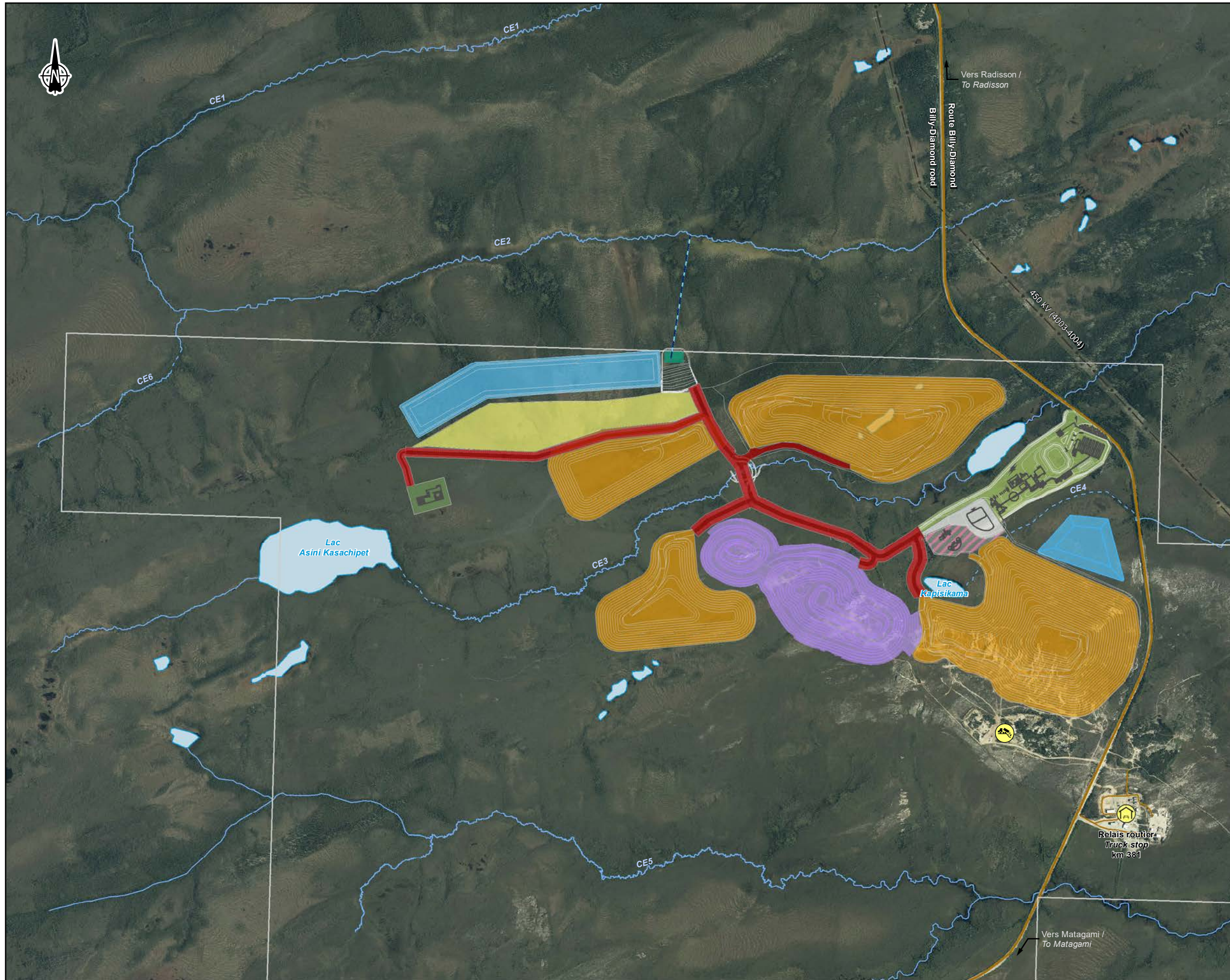
1.4 PHYSICAL SETTING

The climate of the proposed project location is of subarctic continental type. It is characterized by a very cold and long winter and a short and cool summer with limited precipitation, which lasts all year long. The coldest month is January with an average temperature of -23.2°C , and July is the warmest month with an average temperature of 14.2°C . The total annual precipitation in the area is 697.2 mm, of which 453.8 mm fall as rain and 261.3 mm as snow. The average annual wind speed is 14.5 km/h. The prevailing wind is primarily from a western direction throughout the entire year, except for October, November and December when the prevailing direction is from a southern sector.

The surface deposits in the proposed mine location are mainly till (sandy) and clay deposits. Based on the information collected as part of the investigations for this project, the rock underneath corresponds with a class II fractured aquifer, meaning the aquifer is a potential source of drinking water. The till at the surface in the proposed mine location is mainly comprised of silty and gravelly sand with traces of clay. It is moderately permeable and has a low aquifer potential.

The proposed project is located inside the Eastmain River watershed. Three lakes are located immediately near the proposed pit: Asini Kasachipet, Kapisikama and Asiyan Akwakwatipusich Lakes (Map 3). The Asini Kasachipet Lake drainage channel, the CE3 stream, flows east to the unnamed lake and then flows into Asiyan Akwakwatipusich Lake. Kapisikama Lake is isolated throughout most of the year. Its drainage channel is the intermittent CE4 stream, that is only visible during the snow melt period. It also flows east toward Asiyan Akwakwatipusich Lake. CE1 and CE2 streams, both located north of the project site, flow west toward the Miskimatao River and later join the Eastmain River. CE5 stream, south of the project site, flows east and also joins the Eastmain River.

Around the proposed mine location, the waterbodies are natural and are not affected by any forms of pollution that originate directly from human activity. Measurements taken on site showed that pH and dissolved oxygen values were low and that the surface water is very acidic. The nature of the soil and the vegetation are the main causes of these conditions. Although the concentrations of a few trace elements were higher than the recommended criteria in the surface water samples, they were within a natural range for Canadian surface waters. Certain groundwater and sediment analyzed samples exceeded the water quality / sediment criteria for different metals, but as for surface water they are still within the range of the possible natural conditions.



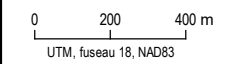
- Limite de propriété / Property limit
- Composantes du projet / Project Component**
- Route / Road
- Effluent minier / Mine effluent
- Usine de traitement de l'eau / Water treatment plant
- Secteur administratif et industriel / Administrative and industrial sector
- Fosse / Pit
- Halde à minerais / ROM pad
- Halde à stériles / Waste rock stockpile
- Halde à matières organiques et dépôts meubles / Overburden and peat storage facility
- Entrepôt à explosifs / Explosives magazine
- Aire d'entreposage / Dry storage area
- Usine à béton (temporaire) / Concrete batch plant (temporary)
- Bassin de rétention d'eau / Water retention basin
- Infrastructures / Infrastructure**
- Route principale / Main road
- Route d'accès / Access road
- Ligne de transport d'énergie / Transmission line
- 🚚 Relais routier / Truck stop
- 🗑️ Lieu d'enfouissement technique isolé / Isolated technical landfill
- Hydrographie / Hydrography**
- CE3 Numéro de cours d'eau / Stream number
- Cours d'eau permanent / Permanent stream
- Cours d'eau à écoulement diffus ou intermittent / Intermittent or diffused flow stream
- Plan d'eau / Waterbody



Mine de lithium Baie-James / James Bay Lithium Mine

Carte / Map 1
Aménagement du site minier /
Mine Site General Arrangement

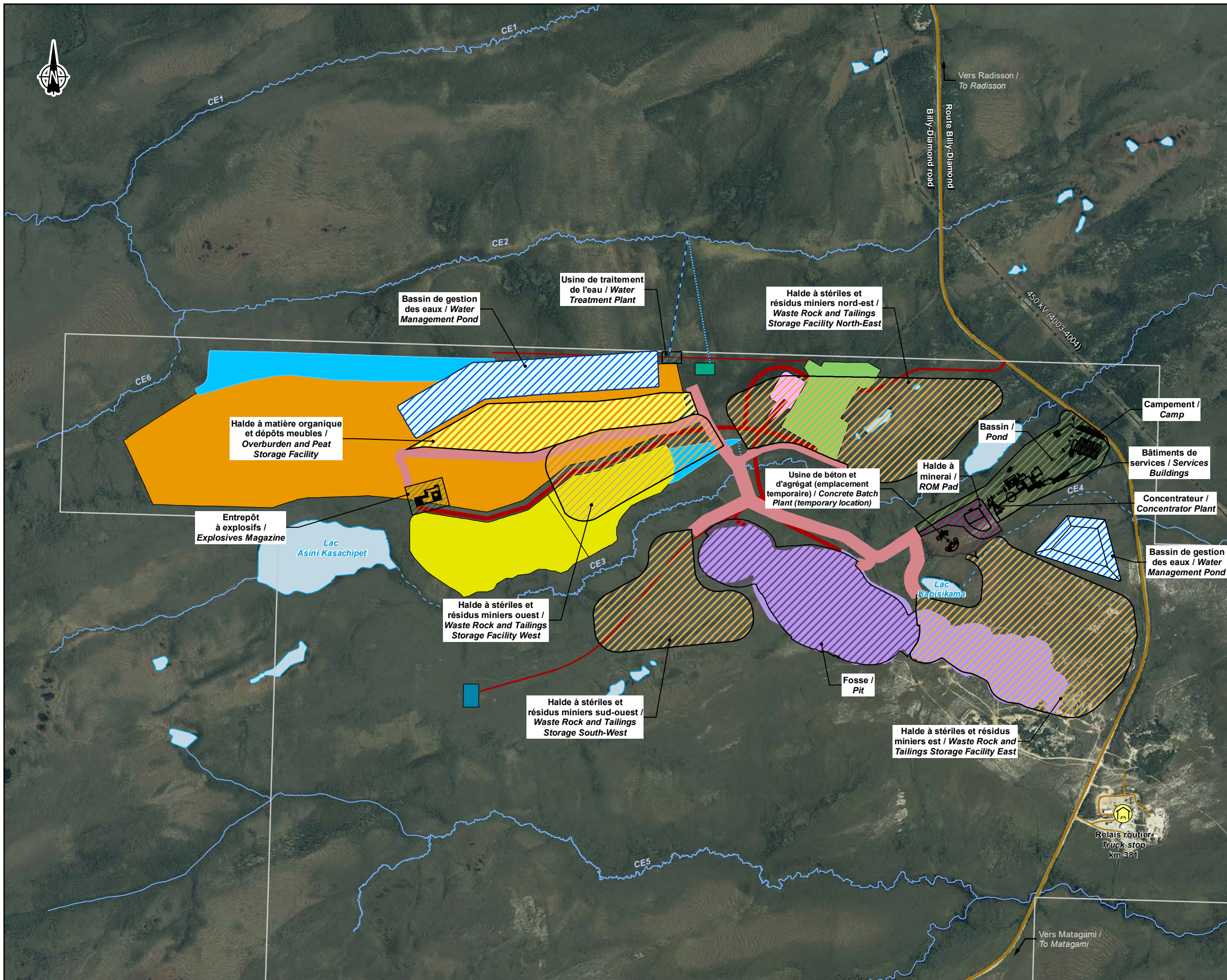
Sources :
 Orthoimage : Microsoft Bing (ESRI, 2017)
 Gestim : MRNF Québec, 210315
 Données du projet / Project data : Galaxy 2020



Juillet / July 2022

Dessin : A. Masson
 Approbation : C. Martineau
 201-12362-00_c1_RES_EIE_mine_220707.mxd





Limite de propriété / Property limit

Composantes du projet / Project Component

2018 2021

- Route / Road
- Effluent minier / Mine effluent
- Usine de traitement de l'eau / Water treatment plant
- Secteur administratif et industriel / Administrative and industrial sector
- Fosse / Pit
- Halde à minéral / ROM pad
- Halde à stériles / Waste rock stockpile
- Halde à matière organique / Organic matter stockpile
- Entrepôt à explosifs / Explosives magazine
- Bassin de rétention d'eau / Water retention basin
- Câble de fibre optique / Optical fiber cable

Infrastructures / Infrastructure

- Route principale / Main road
- Route d'accès / Access road
- Ligne de transport d'énergie / Transmission line
- Relais routier / Truck stop

Hydrographie / Hydrography

- CE3 Numéro de cours d'eau / Stream number
- Cours d'eau permanent / Permanent stream
- Cours d'eau à écoulement diffus ou intermittent / Intermittent or diffused flow stream
- Plan d'eau / Waterbody

GALAXY
Mine de lithium Baie-James / James Bay Lithium Mine

Carte / Map 2
Comparaison générale de l'aménagement du site 2018 vs. 2021 / General Mine Site Arrangement Comparison 2018 vs. 2021

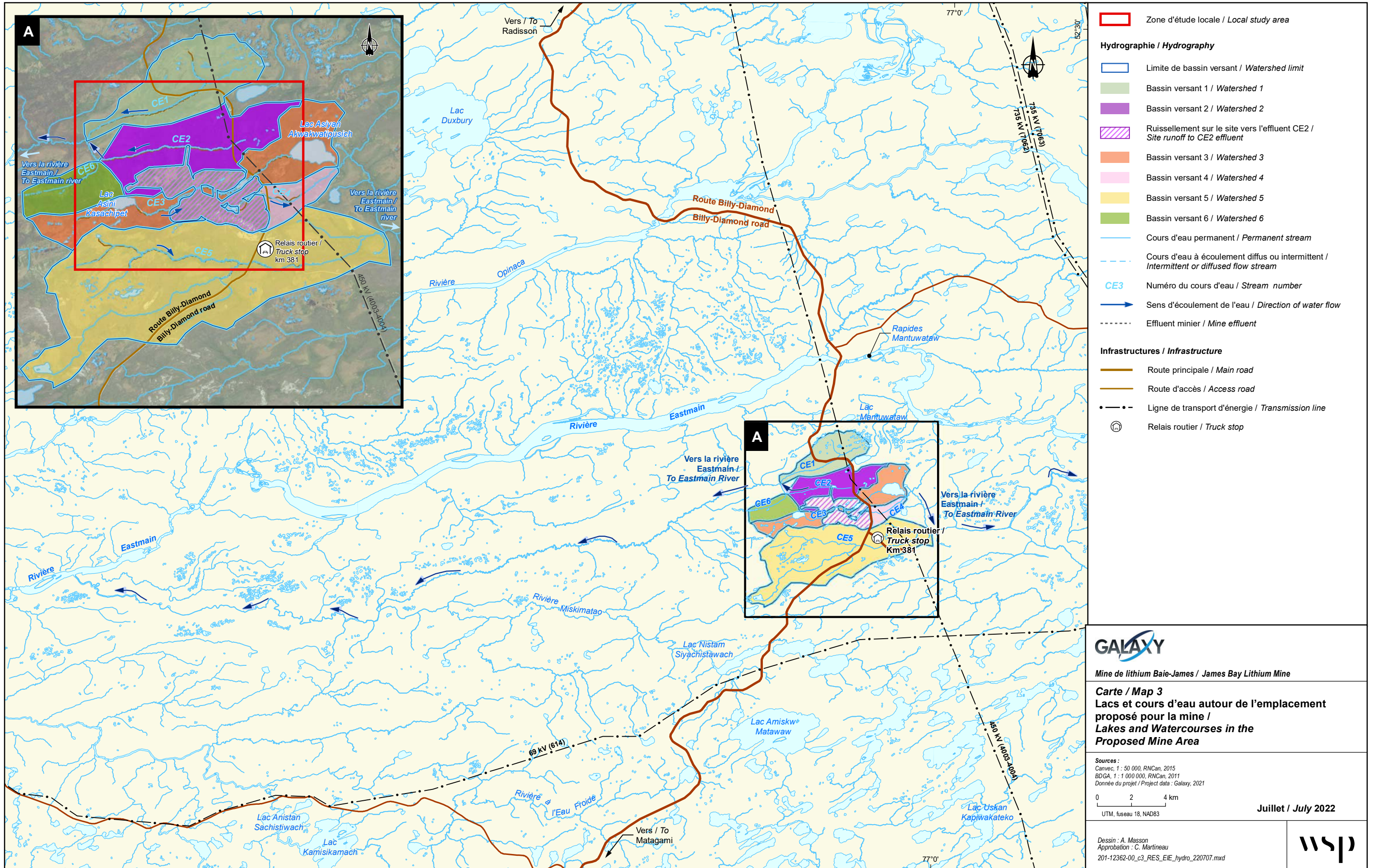
Sources :
Orthoimage : Microsoft Bing (ESRI, 2017)
Géom : MRNF Québec, 210315
Données du projet / Project data : Galaxy 2021

0 200 400 m
UTM, fuseau 18, NAD83

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Dessin : A. Masson
Approbation : C. Martineau
201-12362-00_c2_RES_EIE_compar_220707.mxd

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- Zone d'étude locale / Local study area
- Hydrographie / Hydrography**
- Limite de bassin versant / Watershed limit
- Bassin versant 1 / Watershed 1
- Bassin versant 2 / Watershed 2
- Ruissellement sur le site vers l'effluent CE2 / Site runoff to CE2 effluent
- Bassin versant 3 / Watershed 3
- Bassin versant 4 / Watershed 4
- Bassin versant 5 / Watershed 5
- Bassin versant 6 / Watershed 6
- Cours d'eau permanent / Permanent stream
- Cours d'eau à écoulement diffus ou intermittent / Intermittent or diffused flow stream
- CE3 Numéro du cours d'eau / Stream number
- ➔ Sens d'écoulement de l'eau / Direction of water flow
- Effluent minier / Mine effluent
- Infrastructures / Infrastructure**
- Route principale / Main road
- Route d'accès / Access road
- Ligne de transport d'énergie / Transmission line
- Relais routier / Truck stop

GALAXY

Mine de lithium Baie-James / James Bay Lithium Mine

Carte / Map 3
Lacs et cours d'eau autour de l'emplacement proposé pour la mine / Lakes and Watercourses in the Proposed Mine Area

Sources :
Canvec, 1 : 50 000, RNCan, 2015
BDGA, 1 : 1 000 000, RNCan, 2011
Donnée du projet / Project data : Galaxy, 2021

0 2 4 km

UTM, fuseau 18, NAD83

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Dessin : A. Masson
Approbation : C. Martineau
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1.5 ENVIRONMENTAL SETTING

On a regional scope, the proposed project site is located at the northeastern boundary of the Abitibi and James Bay Lowlands natural province. This zone is characterized by large even plateaus punctuated with hills, featuring vast fens and bogs often beginning at the shores of James Bay and extending 100 km inland.

Forest fires have a major impact on plant group structure and composition. Three recent forest fires (2005, 2009 and 2013) in the project area have significantly impacted the site to the point where the short- and long-term development of existing stands could be disrupted. In fact, the repeated disturbances could significantly limit their regeneration. Evidence of the recent fires is still visible, notably through the sparse nature of the newly growing black spruce and jack pine.

Land environments account for a small portion of the proposed project site. Scrubland is the most abundant plant group in the area. Their shrub layer is mainly comprised of the jack pine and black spruce regenerated after the forest fires, as well as trembling aspen, white willow, velvetleaf huckleberry and sheep laurel. The black spruce-lichen forest and the jack pine forest are the two main land groups observed in land wooded areas. In both cases, the velvetleaf huckleberry, sheep laurel and regenerating black spruce are generally the dominant species in the shrub layer; the spruce forest, in turn, is often home to Labrador tea.

Organic wetlands (peatlands) prevail in the proposed mine area, covering most of the total surface of the project site. Peatlands are either bogs or fens. The bogs in the proposed project area are the largest and most frequently encountered groups. Bogs are essentially supplied by precipitations (rain and snow). The bog surface is often raised relative to the surrounding landscape and isolated from mineralized soil waters. The surface waters of bogs are strongly acid and the upper peat layers are generally nutrient poor; this has an impact on the composition and diversity of the area's vegetation. The plant community is dominated by peat forming mosses, shrubs and black spruce trees. Fens are characterized by a very slow internal drainage. While they are also supplied by precipitations (rain and snow), they also receive flowing water enriched by minerals from the soil of neighbouring habitats. The vegetation in fens usually reflects the water quality and quantity available, resulting in three basic types: fens without trees or shrubs, shrub fens, and treed fens.

Wetlands and lands around the proposed mine location have a very limited potential for special-status plant species, mainly due to the environment's low biodiversity and numerous disturbances such as severe forest fires, which significantly modified the plant communities in the study area over the last few years.

Seven fish species were found in the lakes and watercourses around the proposed project' site in two fishing efforts realised in 2012 and 2017. **In addition, another inventory was carried out in 2019 and aimed at verifying mercury levels in fish flesh. Although all fish have a certain mercury content, no sample exceeded the comparison criterion.** The fish species caught in each water bodies are shown in Table 1.

Three species of large mammals are likely to frequent the project area of the natural environment: caribou, moose and black bears. In the proposed project area, the availability of food used by black bear is likely determined by the occurrence of wetlands and disturbed habitats. The latter are key to produce berries on which the bear relies to build up its fat reserves. Disturbed habitats are primarily represented by habitats undergoing regeneration following two fires. Moreover, Cree users reported that bears visit the remote landfill in search of food, making this a good hunting area for this species. In short, the overall study area represents a potential suitable habitat for black bear.

The moose density in Quebec's boreal forest is linked to an unproductive habitat. The moose density in hunting zone 22, which the project site is a part of, is among the lowest in the Quebec province. In hunting zone 22, an average of **120** moose per year were hunted from **2016 to 2020**. Among these, **according to the information on the killing sites provided by the MFFP, an average of 15 moose were taken per year in the large wildlife study area.**

Caribou benefits from dual protection, at both the federal and provincial levels. Areas providing the highest probability of occurrences are generally residual forest islands formed after forest fires. The habitat available within a 10-km range of the centre of the projected mine is very fragmented. Therefore, due to its high disturbance rate, the study area offers poor habitat conditions for woodland caribou. Moreover, an aerial survey of 40 km by 40 km around the proposed mine site did not allow for the identification of any caribou.








A bird aerial survey allowed for the identification of 47 specimens of eight species of waterfowl and aquatic birds around the project' site. In addition, an osprey flying over the Eastmain River was observed. The most abundant species was the Canada goose with 19 individuals counted. Additionally, 33 individuals representing six species were noted during ground survey activities. The most abundant species observed on the ground were Wilson's snipe, the common loon and the solitary sandpiper.

Thirty-two (32) terrestrial bird species were seen in 2017 around the proposed project' site. The area with the largest number of breeding bird species was the wetland habitat, followed by the open and softwood stand habitats. The densest area with breeding pairs was found in open habitats, followed by softwood stands and wetlands, all species combined. The dark-eye junco and the white-throated sparrow were the dominant species in all three areas.

The common nighthawk, a designated special-status bird species both on the provincial and federal lists, was observed near the project' site. Two more species are also listed: the rusty blackbird and the bald eagle. The rusty black-bird frequents swamps, beaver ponds and peatlands, all of which are still well represented habitats in the proposed mine location and the surrounding areas. As for the bald eagle, suitable habitats for feeding and nesting are available in the study area, although the species was not detected during the 2012 and 2017 surveys.

A dramatic increase in bat mortality has been observed since 2006–2007, due to a disease named the white-nose syndrome (WNS). The presence of WNS has been confirmed in northern Quebec. In 2014, due to the spread of this disease, the little brown myotis and the northern myotis were classified as “endangered” in Canada. Acoustic monitoring conducted during the breeding and migration periods in 2017 confirmed the presence of *Myotis* bats as well as Big brown bat and Hoary bat. Bats choose swamps, bogs, beaver ponds, lakes and watercourses as hydration and foraging habitats. While most of these key elements can be found around the project' site, mature forests have almost completely disappeared due to forest fires in the last decade. Also, no natural cavity was found in the sector and therefore there is no likelihood of bat winter resting ground in or around the project' site.

Table 1 Fish species in lakes and watercourses

	CE1	CE2	Asini Kasachipet Lake	CE3	Asiyan Akwakwatipusich Lake	Kapisikama Lake	CE4	CE5
White Sucker ¹ 				X	X			X
Lake Chub ² 		X		X	X			X
Northern Pike ³ 					X			X
Yellow Perch ³ 						X		
Trout Perch ² 								X
Brook Trout ³ 	X	X		X			X	X
Brook Stickleback ² 			X	X			X	X

1 Image Source: Joseph R. Tomelleri.

2 Image Source: New York State Department of Environmental Conservation.

3 Image Source: Sentier Chasse-pêche Magazine.

1.6 SOCIAL SETTING

The community found in the project study area is Eastmain. The planned mining infrastructure is located on the RE2 trapline. The study area, located in the trapline's eastern section, covers nearly half of its area. It is bordered to the north by the Eastmain River. The Eastmain River segment and a sector with larger lakes in the south are the most frequented. Activities are also carried out along the **Billy-Diamond** Road since it is easily accessible. The main activities carried out on the traplines are hunting, fishing and trapping of fur-bearing animals. It takes place year-round, according to specific practices and timetables.

Two permanent encampments are found in the study area, along the **Billy-Diamond** Road. One of these, built in 2016 and located 7 kilometres northwest of the project site, includes a single camp. The second encampment, less than 10 kilometres south of the project site, includes four camps and a tipi. These camps are the users' main camps and may be frequented year-round. Some temporary encampment sites are also present along the Eastmain River. Tents can be set up there, when needed, mainly during moose hunting or for fishing.

The project study area does not have any protected areas. A biodiversity reserve is planned north of the Eastmain community, on a piece of land that cuts across the Wemindji community's land, 60 kilometres north of the proposed mining site.

In addition, 27 areas with prehistoric archaeological potential have been targeted within the proposed project area. These sites are those that are most likely to contain remains attesting to a human presence from prehistoric time up to the twentieth century. **The field validation of the archaeological potential of the targeted sites in the footprint of the proposed project was carried out in the summer of 2021. In all, 322 boreholes were opened without revealing any archaeological witnesses.** However, ancient human presence is evidenced by both the toponymy and the existence of at least one archaeological site east of the mound where the pit will be built (about 400 m). This site is near the km381 truck stop.

1.7 PROJECT IMPACTS

The project infrastructures were set out to limit environmental impacts.

Runoff and infiltration water from the accumulation areas and the entire site will be collected in drainage ditches and then directed to the main water retention basin. Appropriate wastewater management will be applied. Before being released into the receiving environment, the water will be treated to meet the applicable discharge standards.

Watersheds of the following watercourses **CE3, CE4 and CE5** will be impacted due to the presence of the mine infrastructures. **Watersheds from watercourses CE1 and CE6 will not be impacted by the project.** Because it will receive the mine effluent, the CE2 stream flow will increase. **A rise in water levels from 3 to 13 cm is expected during the baseflow periods of summer and winter, downstream of the outlet. For CE3 stream, a slight decrease of 1 to 3 cm is expected for baseflow and year-averaged water levels. Whereas during the flood period, a decrease in water levels of up to 7 cm is expected.** CE4 stream water levels will decrease by **2 to 9 cm** from the junction with the **Billy-Diamond** Road to its connexion to Asyian Awkawatipusich Lake. **During baseflow periods, the decrease in flow is such that it is expected that there will be no more flow but simply pooling water, with water level maintained by the hydraulic controls present in the stream. Kapisikama Lake will gradually dry up as mining progresses, starting Year 4.**

Apart from the draining of the Kapisikama leading to a loss of habitat for the Yellow Perch, the project impacts on fish are expected to be low. Follow up studies on fish community required by the federal and provincial regulations will validate this evaluation. Effluent water quality will be continuously monitored to assure compliance with federal and provincial standards.

The apprehended impacts on vegetation are mainly related to the destruction and modification of natural habitats. These impacts are caused by deforestation and excavation, necessary for land preparation and the construction of temporary or permanent infrastructures. Work required to develop the future mining infrastructures will result in the transformation of approximately **145 hectares** of terrestrial and **305 hectares** of wetlands, **including a buffer zone of 50 m around the infrastructure, i.e. 35 m of planned deforestation and an additional 15 m of indirect impact.** In comparison, in Eastmain traditional lands, the recent forest fires have destroyed 691,294 hectares, while 3,077 hectares were disturbed for powerline constructions. **The restoration of the site will include revegetation of the various infrastructure areas. Stockpile areas and other impacted surfaces will be revegetated in order to stabilize the site and allow for complete restoration of vegetation as quickly as possible.**

Four species of bats are susceptible to be present (three confirmed) in the study area and bats from the *Myotis* genus are special-status species. **Considering the very low use of the site by bats, the poor quality of the available habitats and the planned mitigation measures, the potential effects of the project are however considered minor.** This trend is similar with regards to birds and the impacts on this component are also considered minor.

Habitat loss and fragmentation are the main direct impacts of the project on large wildlife (caribou, moose, black bear). These impacts will lead to a change in the natural behavior of large wildlife and their movements. Accidental mortalities of large fauna could also occur during collisions with vehicles.

Mine activities will result in various nuisances that could potentially affect the quality of the atmospheric, light and sound environment, groundwater and surface water, as well as vibrations experienced by land users in the mine sector, or by the km 381 truck stop workers and visitors, even if the regulatory requirements are met. Since the site is in an isolated setting, the current air quality in the proposed mine area is considered very good. Air quality will be affected by mining operations that alter the air parameters through increased particulates. However, the results of the atmospheric dispersion modeling show that **for all metals and gaseous elements, the maximum modeled concentrations comply with the standards and criteria, with the exception of the Canadian standard on nitrogen dioxide over the 1-hour period which reaches the first users. Crystalline silica also exceeds criteria (1-hour and annual). For the 1-hour criterion, the limit is not frequently exceeded. However, no exceedances are observed at sensitive receptors. The implementation of the dust management plan will make it possible to monitor the concentrations emitted into the atmosphere and to apply the appropriate mitigation measures in order to limit the impacts.** For noise, the computer modeling study shows that sound levels will also be below applicable regulation limits. Noise levels will increase but will remain acceptable.

Because of its remoteness, sources of vibration in the proposed mine area are almost non-existent. Vibrations will occur while blasting in the pit. Vibration thresholds will be respected at the km 381 truck stop and in other sensitive areas around the pit.

The only current artificial night light transmitter is the km 381 truck stop. Changes are expected due to the addition of artificial light to Galaxy's permanent facilities, as well as to the operating activities.

The drinking water supply of the km 381 truck stop will remain unchanged. The drawdown of the water table associated with the pit will be minimal at the truck stop wells.

The project will result in the loss of use for portions of territory and areas valued by users where the mining infrastructures will be located. Indeed, several large animal species are hunted in the study area, particularly moose, black bear and caribou. Small game and fur-bearing species are also hunted (porcupine, lynx, fox, beaver, marten, otter, muskrat), as are waterfowl. Fishing, trapping and snaring (hare, etc.) are also practiced and could be affected, as concerned species may temporarily avoid or stay away from the sector. However, the Cree land use has been subjected to past impacts, such as loss of land due to flooding, loss of terrestrial fauna and flora caused by forest fires, habitat fragmentation with roads and powerlines, and the presence of the truck stop. The area directly impacted by the project infrastructures is small compared to these events. Furthermore, part of the proposed project is on land that have been destroyed in the 2005, 2009 and 2013 forest fires and will require decades to completely regenerate. However, the tranquility of the site in the periphery of the mine site could also be affected by the activities of the mine. Users who are used to traditional activities in the planned infrastructure sector may also perceive that their security is compromised by the new vocation of the site. Communication measures will be put in place and monitoring reports made available. A schedule of the main traditional activities will be established with the representatives of the Cree Nation of Eastmain, and time slots for construction stoppages will be set according to these activities. For safety reasons, an exclusion zone for traditional activities will be established in collaboration with the tallyman.

Hunting and fishing activities for workers and contractors will be prohibited to limit the pressure on the resource around the project area. **Firearms and fishing equipment will not be permitted on chartered flights used by workers travelling to the mine by air, which will be the case for the majority of workers. Employees travelling to the mine by road will be required to stop at the mine entrance to identify themselves and declare that they are not carrying any hunting or fishing equipment. All incoming and outgoing vehicles will be systematically searched, as on most industrial sites. Disciplinary measures will be imposed on employees and subcontractors who do not comply with the clauses of their contracts. The importance of complying with regulations on hunting, fishing and trapping on the territory will also be discussed during employee orientation days. If employees wish to visit an outfitter on their days off, they will be responsible for obtaining the necessary permits in accordance with the regulations in effect. In addition, if employees ask to do specific fishing activities, a plan could potentially be developed.**

Land users say they fear noise, vibrations and air pollution that could be harmful to wildlife and regenerating vegetation since the 2013 forest fire. The mine activities will disturb game animals at the mine site; this game will move a little farther in similar habitats that may be quieter. This could therefore contribute to increasing the density of species in the sectors where the game will have moved. Thus, trapping and hunting activities that usually take place within a certain radius around the mine project site will be relocated.

The traffic generated by the project will constitute a source of nuisance caused by noise and dust, as well as an increased risk of accidents along the Billy-Diamond road between Matagami and km 381. No village is located near the road, although camps are set up there. Twenty Cree traplines, attached to the Cree Nations of Eastmain (2 traplines), Waskaganish (7 traplines), Nemaska (4 traplines) and Waswanipi (7 traplines), are crossed by the road or are located less than 2 km from the latter. The presence of road access facilitates, in its surroundings, the installation of Cree camps, and the development of traditional activity areas (hunting, fishing and trapping). Thus, in addition to the presence of camps, the roadside can be used for parking, traffic (on foot, snowmobile or ATV), activities, or to reach other trails.

Moreover, users who frequent the study area are already familiar with the presence of trucks on the road. Galaxy has also already met with land users to share information about the project, the expected impacts and the planned management measures. Concerns and expectations were shared with galaxy, particularly in relation to travel habits, main access sites to camps, snowmobile trails and animal crossings. Mitigation measures will also be applied to limit the nuisance associated with airborne contaminants and noise. In addition, a traffic management plan will be put in place. Appropriate signage will be provided from the Billy-Diamond road to announce the mining site. Galaxy workers and contractors will be made aware of traditional Cree practices to minimize disruption. An effective complaint management and follow-up system will be operated by Galaxy in order to provide solutions to problems that may be raised by the local population.

About **280** workers will be required for construction and a **maximum of 167** workers will be needed to operate the mine. Training will be provided. On a regional scale, activities and business at the truck stop, hotels and at the airport will increase. Circulation on the Billy-Diamond Road will also increase with the addition of trucks moving from the mine site to Matagami. As such, business development is also expected at the Matagami transshipment centre.

Many improvement measures are proposed to encourage the hiring of Cree workers, including women and young workers, and to reduce obstacles or constraints to employment (e.g. worker integration mechanisms such as information and a Cree employment counsellor, etc.), particularly in the Impact and Benefit Agreement (IBA) being developed with the Cree Nation of Eastmain.

1.8 RISK MANAGEMENT

During the construction, operation, rehabilitation phases, there are risks that potentially hazardous events could impact environmental components. Unexpected events occurring independently of the activities or conditions normally associated with a project's performance are considered accidents or malfunctions.

The first line of defence against accidents and malfunctions is the introduction of best practices in the areas of health and safety and environmental protection. Being located a fair distance from any permanent dwellings, the James Bay Lithium Mine project poses very little risk to the populations in the area in the event of an accident (the only exception being the truck stop). An accident could nonetheless impact the persons and property at the site, as well as the environment. The site's location, far from resources that could be deployed, makes it important to identify risks and ensure that resources are put in place to be able to respond diligently and confidently in the event of a major accident.

Measures to minimize risks were incorporated into the design, planning and implementation phases and will therefore be in place throughout the life of the project. The purpose of implementing such measures is to reduce the likelihood of unforeseen accidents and malfunctions occurring. The implementation of preventive measures will also reduce the impact of potential accidents. This approach is part of a stewardship initiative aiming to reduce risks at the source while mitigating their impacts on the environment.

Galaxy is committed to ensuring that the risk management process ensure that the plausible consequences of any accident scenarios that have been identified are sufficiently reduced to keep risk levels as low as reasonably achievable.

