



PROPOSED CHANGES TO THE GALAXY LITHIUM (CANADA) INC.
LITHIUM MINE PROJECT

NOTICE TO THE IMPACT ASSESSMENT AGENCY OF CANADA

ENV1007-1504-01_EN

Rio Tinto

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1 INTRODUCTION

Galaxy Lithium (Canada) Inc. (GLCI), a subsidiary of Rio Tinto Lithium (formerly Arcadium Lithium), wishes to develop a new lithium mine in the James Bay region. Arcadium Lithium was created by the merger of Livent and Allkem Limited in January 2024 and purchased by Rio Tinto, effective on March 6, 2025. The company is listed in London on the LSE and in Australia on the ASX. Rio Tinto Lithium is one of the leading lithium producers in the world, with extraction operations in Argentina and Australia, as well as processing facilities in the United States, China, Japan and the United Kingdom. Rio Tinto also has numerous development projects in progress, including the James Bay Lithium Project in Canada.

The Galaxy Mine Project involves spodumene extraction from an open pit. After crushing, the ore will be processed on site by the dense medium separation method, in order to obtain spodumene concentrate with approximately 6% lithium oxide (Li_2O). An operation lasting 19 years is projected, for resources assessed at approximately 54.3 million tonnes with a lithium oxide (Li_2O) content of 1.30%, based on an estimate of mineral resources effective June 30, 2023.¹

The project is located in the territory of the Eeyou Istchee James Bay Regional Government (EIJBRG), in the Nord-du-Québec administrative region, approximately 130 km east of James Bay and the village of Eastmain. It is located near the kilometre 381 truck stop of the Billy Diamond Highway under the responsibility of *Société de développement de la Baie-James (SDBJ)*. The project's central coordinates are as follows:

UTM, time zone 18 N (NAD83): N: 5,789,180, E: 358,891

Degrees, minutes, seconds (WGS84): 52°14'5.74"N, 77°3'59.09"W

¹ Allkem Limited. (2023). James Bay Lithium Project - Technical Report (effective June 30, 2023). Recovered from https://s203.g4cdn.com/709125885/files/doc_downloads/TechnicalRep/New/James-Bay-Lithium-Project-Canada.pdf.

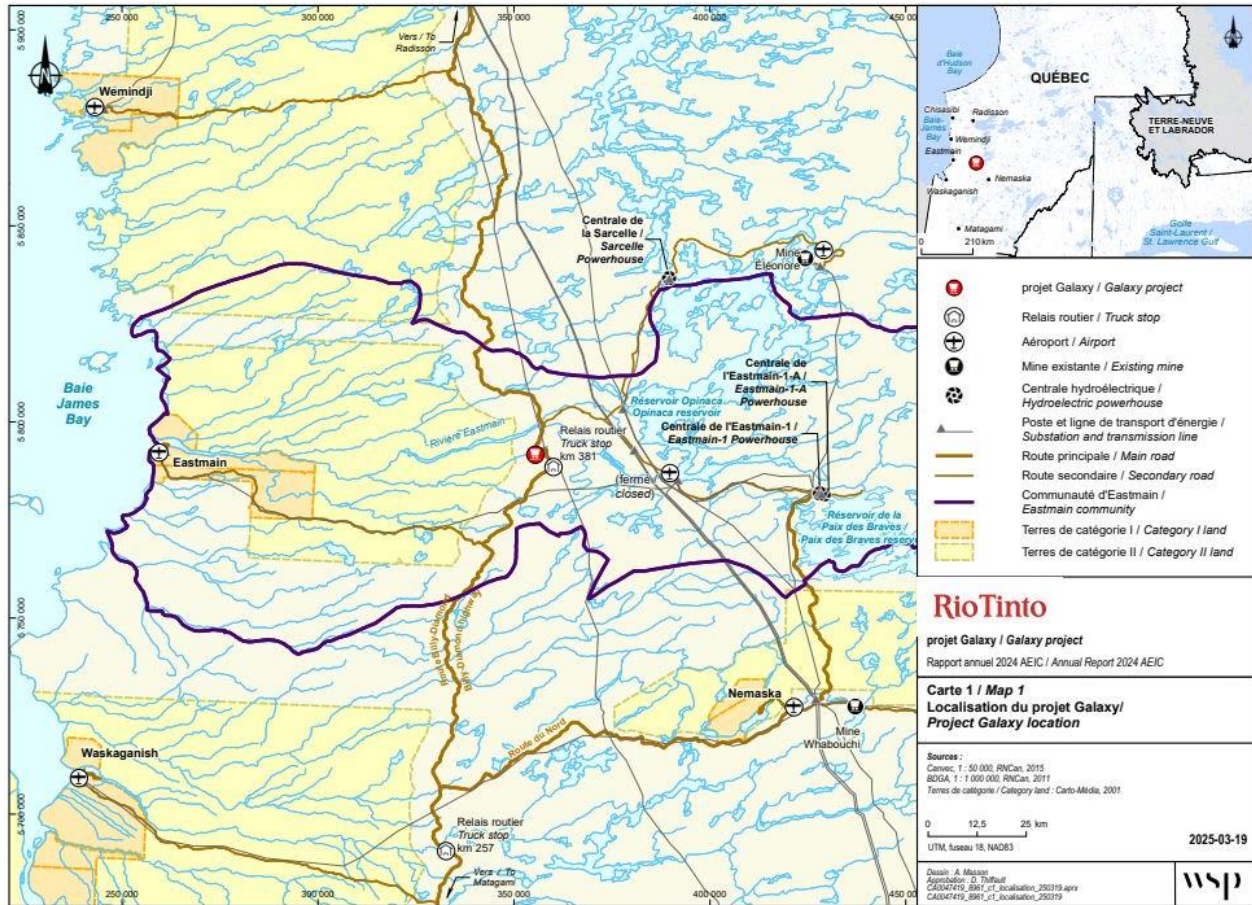


Figure 1-1. Location of the Galaxy Mine Project

2 BACKGROUND

Following the environmental assessment conducted under the Canadian Environmental Assessment Act (2012),² the Impact Assessment Agency of Canada (IAAC) issued a decision statement on January 13, 2023 (under subsection 54(1) of the Canadian Environmental Assessment Act (2012)), and an amended decision statement on July 26, 2024 (under section 308 of the Budget Implementation Act (2024) and subsection 65(1) of the Impact Assessment Act), for the James Bay Lithium Mine Project.

Following the issuance of this Decision Statement, and in parallel with obtaining other authorizations required from the various levels of government, clearing activities occurred between March 20 and April 11, 2024. Construction work on the mine site subsequently began in July 2024.

In the detailed engineering stage, changes to what was authorized via the Decision Statement are generated concerning the following items:

- Primary crusher feed mode;
- Propane heating of the industrial sector buildings;
- Addition of silos to load tailings;
- Change of the concrete plant type in the construction phase.

Therefore, the purpose of this document is to present the IAAC with the proposed changes to the GLCI project, enabling the Agency to assess whether the 2023 Decision Statement (reissued on July 26, 2024), along with the associated conditions, accurately reflect the project in its current form and allow mitigation of all the environmental effects.

2.1 PRESENTATION OF THE APPROACH

As specified in Condition 2.16 of the Decision Statement, this document presents the following information:

- Location and description of the proposed changes to the project;
- Description of the environmental effects that may result from the proposed changes;
- Presentation of the modified or additional measures to mitigate any environmental effect that may result from the proposed change or changes and any modified or additional monitoring requirements;

² Then the Canadian Environmental Assessment Agency.

- Explanation, given any modified or additional mitigation measure covered by the preceding point, of how the environmental effects that may result from the proposed change or changes may differ from the environmental effects caused by the designated project and identified during the environmental assessment.

The assessment of potential environmental effects is based on the following aspects:³

- Fish and their habitat within the meaning of the *Fisheries Act* and aquatic species within the meaning of the *Species at Risk Act*.
- Migratory birds in the meaning of the *Migratory Birds Convention Act, 1994*.
- Species at risk.
- The current use of lands and resources by the Indigenous peoples for traditional purposes.
- The health, social or economic conditions of the Indigenous peoples.
- Physical and cultural heritage, as well as structures, sites or things of historical, archaeological, paleontological or architectural significance to the Indigenous peoples.

To the extent that no environmental effect is apprehended by the proposed changes, on one or more of the above-mentioned aspects, this is specified.

2.2 INFORMATION AND CONSULTATION OF THE INDIGENOUS COMMUNITIES AND THE RELEVANT AUTHORITIES

On February 4, 2025, an information and consultation session was organized by GLCI with members of the Eastmain community to present certain themes, including the four (4) changes to the project, i.e.:

- Primary crusher feed mode;
- Propane heating of the industrial sector buildings;
- Addition of silos to load tailings;
- Change of the concrete plant type.

The only two questions raised by the community members were about the concrete plant:

- Use of the concrete: GLCI explained that the concrete plant was necessary for the construction of building foundations.
- Contract award: GLCI answered that they awarded the contract for the concrete plant to Felco.

³ In accordance with section 2 of the amended *Impact Assessment Act* (i.e. *An Act respecting a federal process for impact assessments and the prevention or mitigation of significant adverse effects within federal jurisdiction*)

The report on the discussions during the meeting and the slideshow of this presentation are found in Appendices A1 and A2.

Moreover, on February 11, 2025, GLCI sent a PowerPoint document to the Cree Nation of Waswanipi and the Cree Nation of Waskaganish to present the changes to the project (Appendix A3).⁴ GLCI offered to organize a Teams meeting for the communities if they wished to discuss the changes further. Their questions and/or comments were solicited for February 25, 2025. Waskaganish answered that no additional information was necessary and, as of today's date, no question/comment had been raised by the Waswanipi communities. GLCI therefore considers that the consultation period with the Cree communities concerned is now completed.

For the three (3) communities (Eastmain, Waskaganish and Waswanipi), GLCI mentioned that they would present these project changes to the provincial and federal authorities to obtain the necessary authorization changes, as the case may be.

Regarding the approaches in progress with the relevant authorities, the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) was informed of the changes to the project. Among them, only the change regarding the industrial sector building heating strategy (with propane) must be the subject of an amendment to Global Certificate of Authorization No. 3214-14-055 (Global CA) issued on December 27, 2023, under section 164 of the Environment Quality Act (EQA) for the implementation of the James Bay Lithium Mine Project.

⁴ Although the coverage page only indicates the Waswanipi community, the same presentation was also submitted to the Waskaganish community.

3 PRIMARY CRUSHER FEED MODE

3.1 LOCATION AND DESCRIPTION OF THE PROPOSED CHANGE

This change relates to the ore feed mode of the primary crusher. The location of the primary crusher is illustrated in Figure 3-1 and the site’s general layout plan is found in Appendix B.

As initially planned and authorized, the ore extracted from the pit was to be transported by mine trucks to the temporary ore pile. From there, a front-end loader would transfer the ore to the static sieve of the primary crusher.

To improve operational efficiency, it is now proposed to feed the primary crusher directly with trucks, eliminating the intermediate stockpiling step (Figure 3-2). This change would remove the continual use of a front-end loader, thereby reducing diesel consumption and lowering health and safety risks associated with equipment interactions in the temporary storage areas.

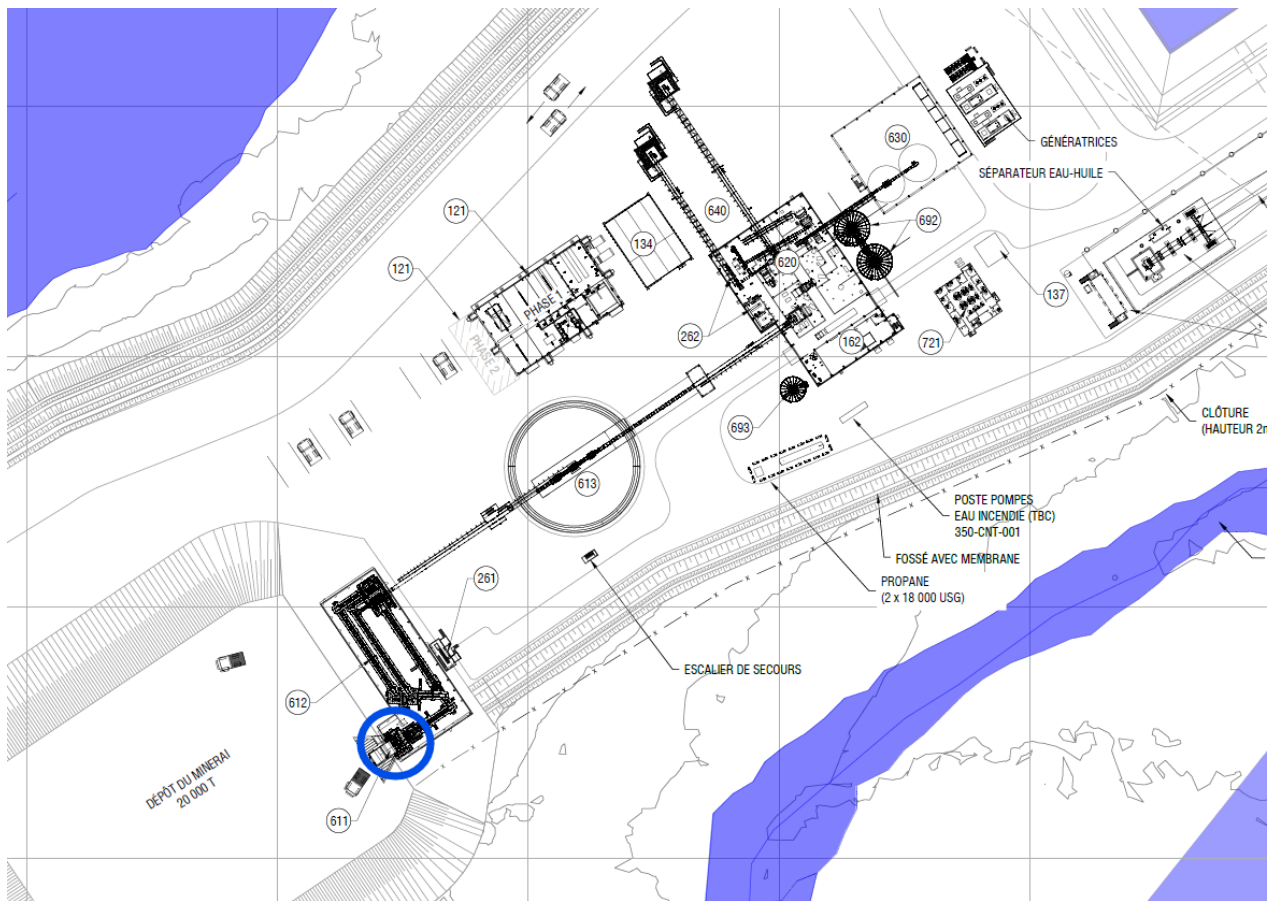


Figure 3-1. Location of the primary crusher (circled in blue)

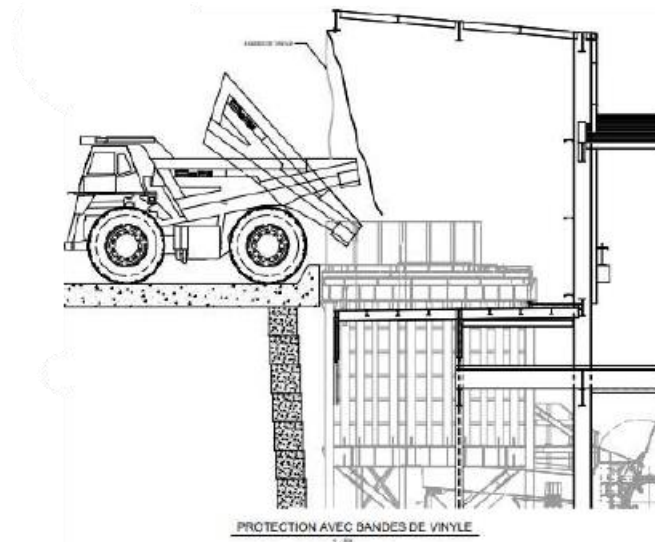


Figure 3-2. Direct unloading of mine trucks at the primary crusher

3.2 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

The proposed change eliminates an intermediate ore handling step between the pit and the primary crusher, in addition to removing the continual use of a front-end loader. This will have the effect of lowering diesel consumption, but also of reducing dust emissions.

In the environmental impact assessment (EIA) (WSP, 2021a), the primary crusher's operations were identified as a source of both dust and noise. An initial Air Dispersion Modelling Study was conducted by WSP in 2018. Following certain changes to the project, another modelling study was produced by Stantec in 2021 and further refined in 2022 (Stantec, 2022). Recently, in 2025, Stantec was mandated to assess whether the latest design modifications required an update of the 2022 modelling. The 2025 Stantec Technical Memo is found in Appendix C.

The Stantec memo (2025) specifically addresses the modification of the primary crusher feed system through direct truck feeding from the pit. Changes in fugitive dust emissions were assessed for total suspended particles (TSP). Since the Air Dispersion Modelling Study conducted in 2022 did not account for the use of front-end loaders at the primary crusher, this design change does not result in any alteration of TSP emissions.

According to the comparison presented in the Stantec memo, the ore unloading rates by trucks at the primary crusher and the associated TSP emissions remain unchanged between the updated design and the 2022 modelling study.

In addition, based on the results in relation to the different changes made to the project, Stantec's 2025 Memo does not recommend proceeding with an update of the 2022 Air Dispersion Modelling.

Concerning the potential impacts on ambient sound, a noise and vibration modelling study was conducted in 2021 (WSP, 2021b), in which the primary crusher was part of the modelling sources. According to the results of the study, it is indicated that the sound level of operating activities (all types of operating activities combined) will be perceptible but will remain within the permitted sound limits. Thus, it is not anticipated that the change in the primary crusher feed mode will cause an increase in the sound level in the operating period, in view of the elimination of an ore handling step.

Let us remember that in the context of the construction and operation of the Galaxy Mine Project, GLCI plans to implement, among other programs, an ambient air quality and sound climate monitoring program, in order to enforce the applicable standards and criteria and the conditions included in the authorizations obtained via the Decision Statement and the Global CA of the MELCCFP. These monitoring programs are part of the “Environmental and Social Monitoring Program” document. This document also includes the “Dust Emissions Management Plan”, which enumerates all the measures that will be deployed to minimize the project’s effects on the atmosphere, at every step of the project. Among these measures, we note monitoring of air emissions from fixed sources, the care and maintenance component, and the adaptive mitigation measures management program.

In addition, to limit dust emissions during truck unloading at the crusher, water will be sprayed onto the static sieve when weather conditions allow. A vinyl strip curtain will also be installed at the entrance of the unloading zone. This curtain will help contain any dust emissions that could be generated during unloading.

Consequently, no new environmental effect in relation to the proposed change is anticipated regarding fish, fish habitat and aquatic species, given that the proposed changes are in the industrial sector of the mine site, at the same location as the initial location, and more than 100 m from any watercourse and body of water.

The same is true for migratory birds and species at risk, for which no additional adverse change is expected in relation to this change to the project. Indeed, the main impacts will be felt during the development of the mine site with its various infrastructure, resulting in the loss and degradation of habitats. The disturbances caused by the crushing operations will not be any greater with the proposed change. Moreover, all the mitigation measures planned in relation to migratory birds and species at risk under the project in general will reduce the effects on these components.

Finally, because the proposed change is located in the industrial sector of the mine site, no additional adverse impact is expected on the current use of lands and resources for traditional purposes by the Indigenous peoples, nor on the natural and cultural heritage, and on structures, places or things of historical, archaeological, paleontological or architectural importance for the Indigenous peoples. Moreover, since no change in TSP emissions is expected with this change, no new impact is expected on the health, social or economic conditions of the Indigenous peoples.

Based on this, and accounting for the different mitigation, monitoring and surveillance measures already planned for the Galaxy mine project, no modified or additional measure is necessary and/or recommended, especially since it is not expected that new environmental effects will result from the proposed change.

4 PROPANE HEATING OF THE INDUSTRIAL SECTOR BUILDINGS

4.1 LOCATION AND DESCRIPTION OF THE PROPOSED CHANGE

As initially planned and authorized, the mine site is connected to the Hydro-Québec power distribution grid, via a new 69 kV line approximately 10 km long. This should then constitute the main energy source. However, since the Hydro-Québec grid can only supply a maximum of 7.8 MW via the connection to the 69 kV line, GLCI had chosen a secondary power source. This included heating the camp buildings with propane gas during the construction and operating phases, and intermittent use of diesel generators during peak periods. The buildings of the administrative and industrial sectors are heated with electricity. An emergency power supply for the treatment plant was also planned, with two (2) diesel generators (1.8 MW each).⁵ Therefore, this energy supply scenario was authorized under the Decision Statement.

This change concerns the design update of the heating and ventilation system of the treatment plant and the industrial sector buildings. Initially, each building had its own auxiliary heating unit. It is now proposed to replace the initially planned electric unit heaters with the addition of two propane boilers (located in the plant building (DMS)), which will supply glycol water loop heating to five buildings in the plant area: The workshop and reagents area (162), the DMS building (620), the warehouse (134), the truck shop (121) and the concentrate building (630). Local heating of the crushing building will also be provided using propane unit heaters. Heat recovery from the generators is also planned as part of the glycol water loop design.

Each of the boilers (Cleaver Brooks CFLC-700-8000 models) has 8,000 MBH (2,344 kW) of power, for a total of 4,688 kW.

Figure 4-1 illustrates the location of the buildings concerned by the change (refer to the number in parentheses corresponding to each building). The general layout plan is available in Appendix B.

It should be noted that these changes are made necessary considering that, despite all the discussions held since the start of the project, 8 MVA power supply from Hydro-Québec is not enough to cover the power consumption peaks in winter. Moreover, the exchanges with Hydro-Québec revealed that they cannot find a model capable of clearing enough leeway to supply more loads than the 8 MVA initially planned. It should also be noted that the grid's current operation is pushed to the limit of its capacities (thermal and voltage support). This solution is therefore proposed to mitigate the demand.

⁵ These two (2) generators are part of the changes integrated into the Stantec Technical Memo (2025) but were already included in the authorized project.

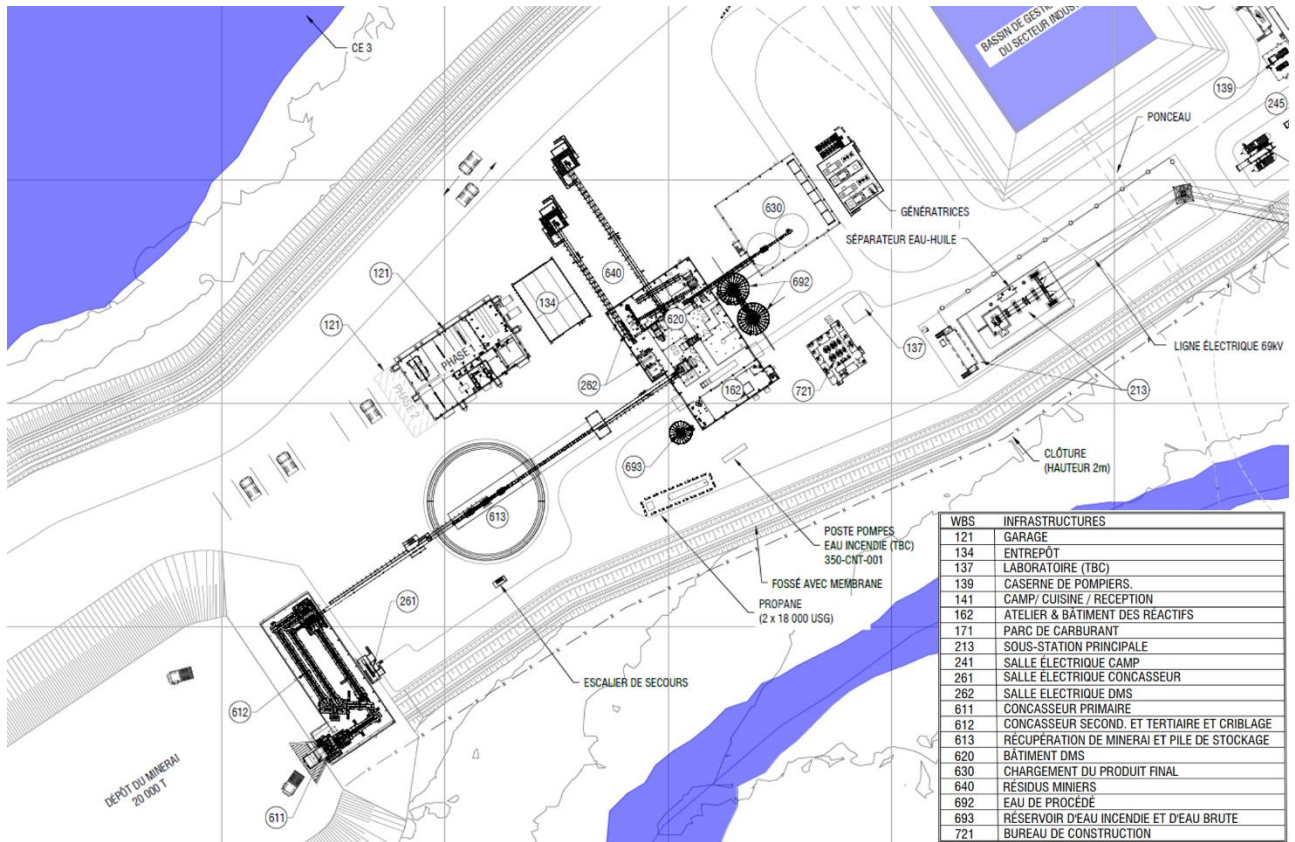


Figure 4-1. Location of the buildings heated with propane gas and location of the tank

4.2 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

In the EIA (WSP, 2021a), camp heating (with propane) was considered a source of air emissions. As indicated in section 3.2, some Air Dispersion Modelling Studies have been conducted since 2018, the last of which was the one updated by Stantec in 2022. Since then, Stantec recently proceeded with a new assessment of the 2022 modelling results and an assessment of the necessity to update the modelling, following the optimizations to the project. The Technical Memo is found in Appendix C.

The total propane consumption and the corresponding NO_x emissions (the primary by-product of propane and diesel combustion) were compared with the 2022 study. It appears that total propane uses, and NO_x emissions are lower than those projected in the 2022 Air Dispersion Modelling Study. Specifically, the optimization of the heating and ventilation system, including the replacement of the previous units with more efficient boilers, leads to a reduction in the project's total NO_x emissions by 29.3 t/year. Table 4-1 illustrates these results.

Table 4-1. Comparison of propane consumption and NO_x emissions from heating and ventilation between the 2022 Air Dispersion Modelling Study and the updated design

Parameter	Unit	2022 study	Current design
Propane Consumption	L/h	3,329	1,668
	ML/year	29.2	14.6
NO _x emissions	kg/h	5.19	1.84
	t/year	45.5	16.1

Table 2.2 of the Stantec Technical Memo (2025) provides a detailed description of the heating and ventilation units of each industrial sector building based on the updated design and compares propane consumption (L/h) for each building with the 2022 Air Dispersion Modelling Study.

It should be noted that the reduction in propane consumption is attributable, among other factors, to the fact that the 2022 modelling study included propane used for heating the building dedicated to the storage of the tailings piles, whereas this now is no longer necessary in view of the replacement of the building by outdoor silos (see section 5.1). Moreover, the introduction of a new central heating system, more efficient than the auxiliary units planned in 2022, also contributes to the reduction of propane consumption.

Optimization of the processes, coupled with an improvement in the energy efficiency of the equipment, allowed a reduction of dependence on propane. The integration of new heat sources with better performance and better residual heat recovery also played a key role in this reduction. In addition, the propane boilers used in the new system have a higher yield, emitting less NO_x compared to the former units.

Following the results of the change in the heating strategy and with the other changes made to the project, Stantec’s 2025 Memo does not recommend proceeding with an update of the 2022 Air Dispersion Modelling Study.

It is important to mention that Stantec had also proceeded in 2021 with the assessment of greenhouse gases (GHG) and that the emissions from stationary combustion during construction and operation had been estimated for propane and diesel consumption. This assessment is included in Appendix D of the 2022 Air Dispersion Modelling (Stantec).

Based on the proposed changes to the heating strategy and to the use of propane, no new impact is apprehended in relation to the ambient air quality. To enforce the applicable air quality standards and criteria, and to meet the federal and provincial conditions included in the authorizations, GLCI undertakes to implement the complete environmental and social monitoring program (Arcadium Lithium, 2024), including the ambient air quality monitoring program. This program also includes the “Dust Emissions Management Plan”, which enumerates all the measures that will be deployed to minimize the project’s effects on the atmosphere, at every step of the project. Among these measures, we note monitoring of air emissions from fixed sources, the care and maintenance component, and the adaptive mitigation measures management program.

Moreover, to limit air emissions, GLCI is committed to a minimal use of heating, by only maintaining the temperatures necessary for operation of the machines and storage of chemicals.

Consequently, no new environmental effect is anticipated in relation to the proposed change regarding fish and fish habitat, as well as aquatic species. The same is true for migratory birds and species at risk.

The change to the heating strategy will not have additional adverse impacts on the current use of lands and resources for traditional purposes by the Indigenous peoples, nor on their health, social or economic conditions nor on the natural and cultural heritage, and on structures, places or things of historical, archaeological, paleontological or architectural importance for the Indigenous peoples.

Based on this, and accounting for the different mitigation, monitoring and surveillance measures already planned for the Galaxy mine project, no modified or additional measure is necessary and/or recommended, especially since it is not expected that new environmental effects will result from the proposed change.

5 ADDITION OF SILOS TO LOAD TAILINGS

5.1 LOCATION AND DESCRIPTION OF THE PROPOSED CHANGE

This change concerns the tailings loading step in the trucks at the ore processing plant exit. The initial and authorized concept planned to load the tailings in the haulage trucks inside a dedicated building (Figures 5-1 and 5-2). It was planned to pile the fine and coarse tailings in two separate piles in the building and to fill the haulage trucks by continual shuttling of two front-end loaders.

The concept was improved to get around a major safety issue during winter operations, in view of the risk of ice formation on the piles (due to the moisture present in the tailings). Because of this fact, it is planned to replace the building dedicated to tailings storage with two (2) silos (one for coarse tailings and one for fine tailings) located outside the plant and connected to it by closed conveyors (Figures 5-3 and 5-4). Therefore, the tailings will be transported to the silos via the covered conveyors, and the haulage trucks will be loaded by means of hoppers with valves below each silo (Figure 5-5). This change reduces the use of diesel equipment and minimizes human handling.

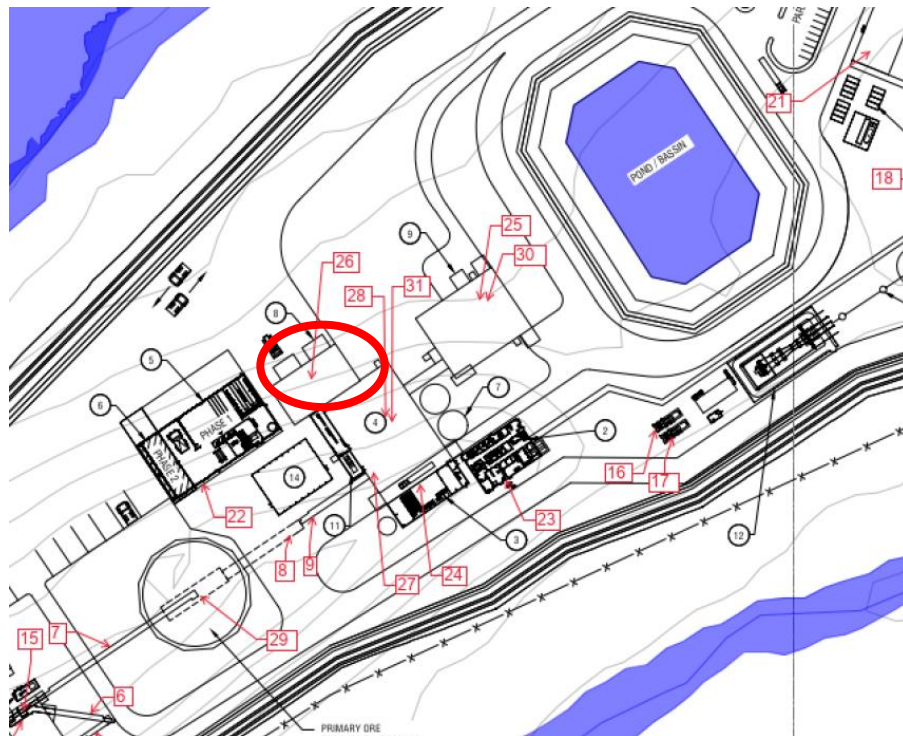


Figure 5-1. Location of the tailings loading building, initial concept (circled in red)

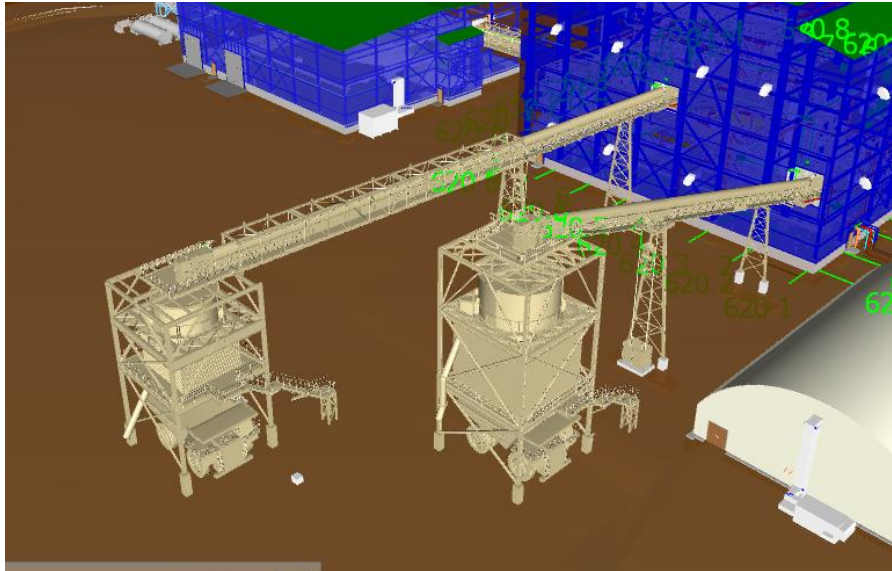


Figure 5-4. Silos and closed conveyors, new concept

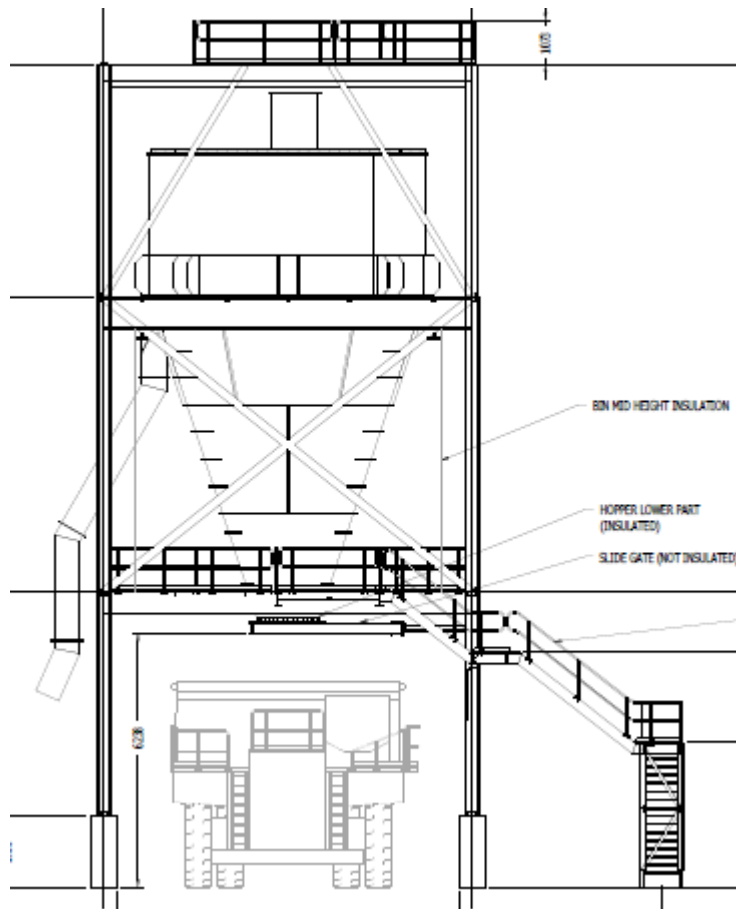


Figure 5-5. Loading trucks below the silos

5.2 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

In the EIA (WSP, 2021a), the operations of the building dedicated to tailings loading were considered a dust source, due to tailings storage and loading, but were not indicated as a noise source.

As mentioned previously, Stantec in 2025 produced a Technical Memo (Appendix C) that also addresses the addition of the silos and the closed conveyors. The changes in fugitive dust emissions were estimated for total suspended particles (TSP). The Memo mentions that the tailings loading rate (1,690 kilotonnes per year and 193 tonnes per hour) and the number and type of haulage trucks (CAT 777 with a useful load capacity of 90 tonnes) have not changed relative to the 2022 Air Dispersion Modelling Study. In the 2022 design, tailings loading was confined to a dedicated building and fugitive dust emissions had to be negligible. However, the TSP emissions from tailings loading in the transport trucks had been estimated prudently at that time. For the updated design, the fugitive dust emissions will result from open pit loading of tailings in the haulage trucks. The TSP emissions from tailings loading were estimated in the same way as for the 2022 modelling study, but by using more precise information to account for the moisture content of the fine and coarse tailings. Indeed, the 2022 modelling study assumed a tailings moisture content of 11.4%, while the new information provided by GLCI indicates a moisture content of 18% to 20% for fine tailings and 6% to 8% for coarse tailings. The updated TSP design emissions thus were estimated by assuming that half the tailings are fine, and the other half are coarse and using the corresponding moisture content.

Table 5-1 compares the tailings loading rate, the tailings moisture content and the TSP emissions from tailings loading for the updated design and the 2022 Air Dispersion Modelling Study. It is observed that the TSP emissions for the updated design increase marginally in comparison with the 2022 study.

Table 5-1. Comparison of TSP emissions from tailings loading between the 2022 Air Dispersion Modelling Study and the updated design (data taken from Stantec (2025))

Parameter	Unit	2022 study	Current design
Tailings loading rate	kt/year	1,690	1,690
	t/h	193	193
Fine tailings moisture content	%	11.4	19
Coarse tailings moisture content	%	11.4	7
Mean annual wind speed	m/s	3.73	3.73
TSP emissions	kg/h	0.040	0.049
	t/year	0.348	0.429

After this, an increase in dust emissions potentially could lead to effects on Cree health, given the possibility of air quality degradation. During the consultations held in the context of the EIA, members of the Cree Nation had expressed their concerns about the effects of dust on their health and the measures that would be taken to control emissions.

To this effect, the Stantec Memo (2025) also compares the changes for the emissions due to the recent project design changes (also including the addition of the 2 silos) with the project’s total emissions from the 2022 Air Dispersion Modelling Study (Table 5-2).

The total hourly NO_x emissions from the 2022 Air Dispersion Modelling Study were 36.7 kg/h, including the exhaust gas emissions from off-road diesel equipment, propane heating, and blasting emissions. In the updated design, NO_x emissions from propane heating decreased by 3.35 kg/h; therefore, changes in NO_x emissions are presented as negative. In contrast, the addition of two (2) diesel generators for peak power needs results in an increase of 2.00 kg/h of NO_x emissions (5.4%). As a result, the design modifications lead to a net reduction of 1.35 kg/h (or 3.7%).

The total hourly TSP emissions from the 2022 Air Dispersion Modelling Study were 122 kg/h, the main contributing source being gravel transport roads (72.1 kg/h). The uncovered loading of tailings into haul trucks from the two tailings storage silos results in a negligible increase of 0.009 kg/h (0.01%) of TSP emissions relative to the 2022 Air Dispersion Modelling Study. No other changes in the TSP emissions are associated with the recent design updates.

Table 5-2. Comparison of NO_x and TSP emissions due to the design changes with the total project emissions from the 2022 Air Dispersion Modelling Study (data taken from Stantec (2025))

Emission source	Hourly emissions (kg/h)		Annual emissions (t/year)	
	NO _x	PST	NO _x	PST
Air Dispersion Modelling Study				
Exhaust gas	27.0	1.70	236	14.9
Propane combustion	5.19	0.280	45.5	2.45
Explosives	4.54	28.1	19.8	4.39
Dust collectors	-	1.03	-	9.04
Unpaved roads	-	72.1	-	526
Handling of materials	-	4.19	-	36.7
Bulldozing	-	6.90	-	60.4
Drilling	-	0.217	-	1.90
Wind erosion of piles	-	7.73	-	57.5
Total emissions	36.7	122	302	713
Emissions due to design changes				
Propane combustion ^a	-3.35	-	-29.3 ^{a, b}	-
Diesel generators	2.00	-	13.1 ^c	-
Tailings loading	-	0.009	-	0.081
Direct unloading at the primary crusher	0	0	0	0
Total emissions from the changes	-1.35	0.009	-16.2	0.081
% change relative to the 2022 study:	-3.7%	0.01%	-5.4%	0.01%

^a The negative NO_x emissions indicate that the propane heating emissions for the updated design were reduced relative to the 2022 emissions.

^b The annual NO_x emissions rate is calculated based on 12 months of operation.

^c The annual NO_x emissions rate is calculated based on 9 months of operation.

Thus, based on the above, new environmental effects will not be caused by this change to the project, since tailings loading on the trucks from the two silos only leads to a negligible increase in TSP emissions. No new effect is therefore apprehended in relation to Cree health.

Regarding the ambient sound, and as presented in section 3.2, the results of the 2021 noise and vibration modelling study (WSP, 2021b) indicate that the sound level of operating activities (all types of operations combine) will be perceptible but will remain lower than the permitted sound limits.

Let us remember that GLCI undertook to implement, among other programs, an ambient air quality and monitoring program and a Dust Emissions Management Plan (DEMP), in order to enforce the applicable standards and criteria and the conditions included in the authorizations obtained via the Decision Statement and the Global CA of the MELCCFP. Also, the DEMP provides for monitoring of the quality of traditional food, so as to be able to verify the accuracy of the environmental assessment and determine the efficiency of the mitigation measures relating to the adverse environmental effects of the project on the health of the Indigenous peoples, which would result from potentially worrying contaminant concentration changes in plants and tissues of game animals likely to be consumed by the Crees as traditional food.

Regarding fish and fish habitat, as well as aquatic species, no new environmental effect is anticipated, given that the proposed changes are located in the industrial sector of the mine site and over 100 m from any watercourse and body of water.

The same is true for migratory birds and species at risk, for which no additional adverse change is expected in relation to this change to the project. Indeed, the main impacts will be felt during development of the mine site with its various infrastructure, resulting in loss and degradation of habitats. The disturbances caused tailings loading operations at the silos will not be any greater. Moreover, all the mitigation measures planned in relation to migratory birds and species at risk under the project in general will reduce the effects on these components.

Finally, because the proposed change is in the industrial sector of the mine site, no additional adverse impact is expected on the current use of lands and resources for traditional purposes by the Indigenous peoples, nor on the natural and cultural heritage, and on structures, places or things of historical, archaeological, paleontological or architectural importance for the Indigenous peoples.

Based on this, and accounting for the different mitigation, monitoring and surveillance measures already planned for the Galaxy Mine Project, no modified or additional measure is necessary and/or recommended, especially since it is not expected that new environmental effects will result from the proposed change.

6 CHANGE OF THE CONCRETE PLANT TYPE.

6.1 LOCATION AND DESCRIPTION OF THE PROPOSED CHANGE

In the context of the project as initially proposed and authorized, a concrete plant was planned for the construction phase and had to be erected southwest of the plant (Figure 6-1). The initial concept as a “wet” plant, meaning that the concrete at the output of the concrete plant was in wet form.

The new concept, a dry concrete plant (BMH Systems DEC50), is mobile (Figure 6-2). The layout of the equipment and the storage zones is illustrated in Appendix D. The dry ingredients, particularly the aggregates, are combined directly in the plant, while water is added subsequently in the concrete mixers. This process allows great flexibility and ensures efficient production reaching up to 50 m³ of concrete per hour. In comparison with the initial concept, this concept allows maximization of the quantity of prefabricated cement (coming from outside the mine site and delivered by semi-trailer).

The plant’s location will be the same as initially. However, the plant’s water supply source is changed; the water will be captured first in watercourse CE3, while Kapisikama Lake will be used as a secondary source, in the event of a low water level in CE3.

Figure 6-3 shows the operational configuration of the facilities. The technical information about the plant and its integrated dust collector is found in Appendix E.

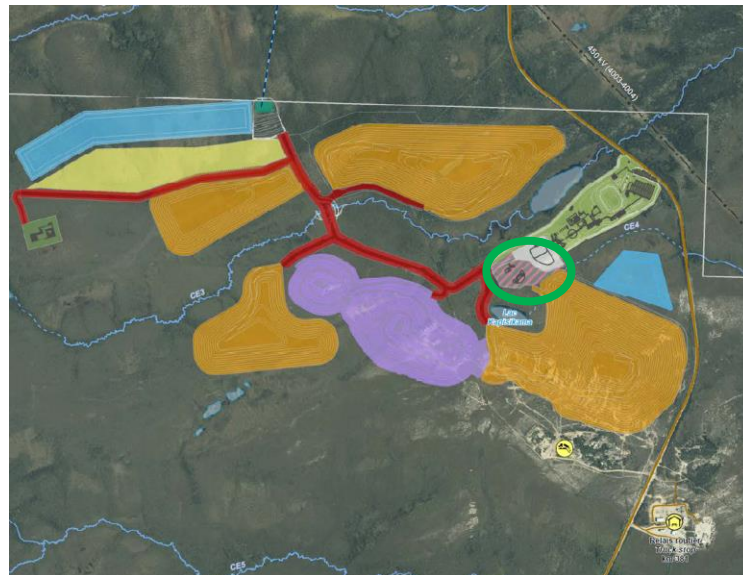
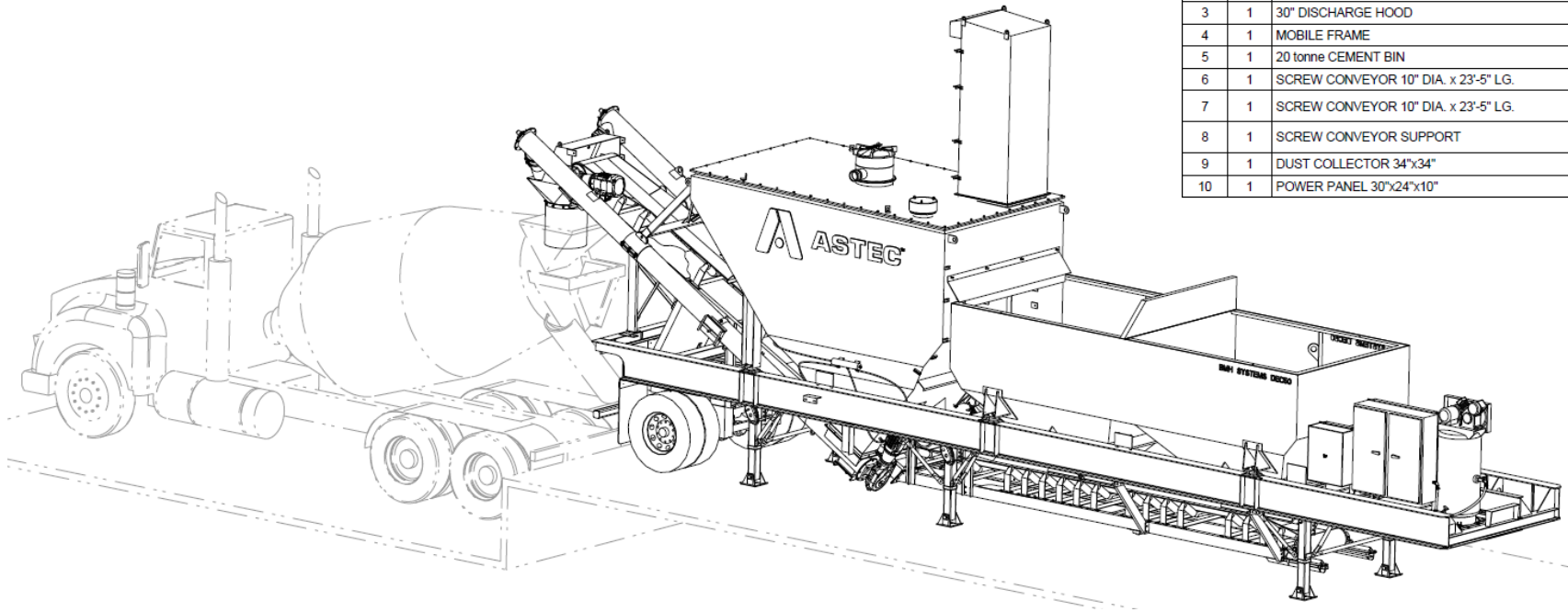


Figure 6-1. Location of the concrete plant (circled in green)



2	1	BELT CONVEYOR 30' X 42" LG.
3	1	30" DISCHARGE HOOD
4	1	MOBILE FRAME
5	1	20 tonne CEMENT BIN
6	1	SCREW CONVEYOR 10" DIA. x 23'-5" LG.
7	1	SCREW CONVEYOR 10" DIA. x 23'-5" LG.
8	1	SCREW CONVEYOR SUPPORT
9	1	DUST COLLECTOR 34"x34"
10	1	POWER PANEL 30"x24"x10"

Figure 6-2. General layout of the mobile concrete plant

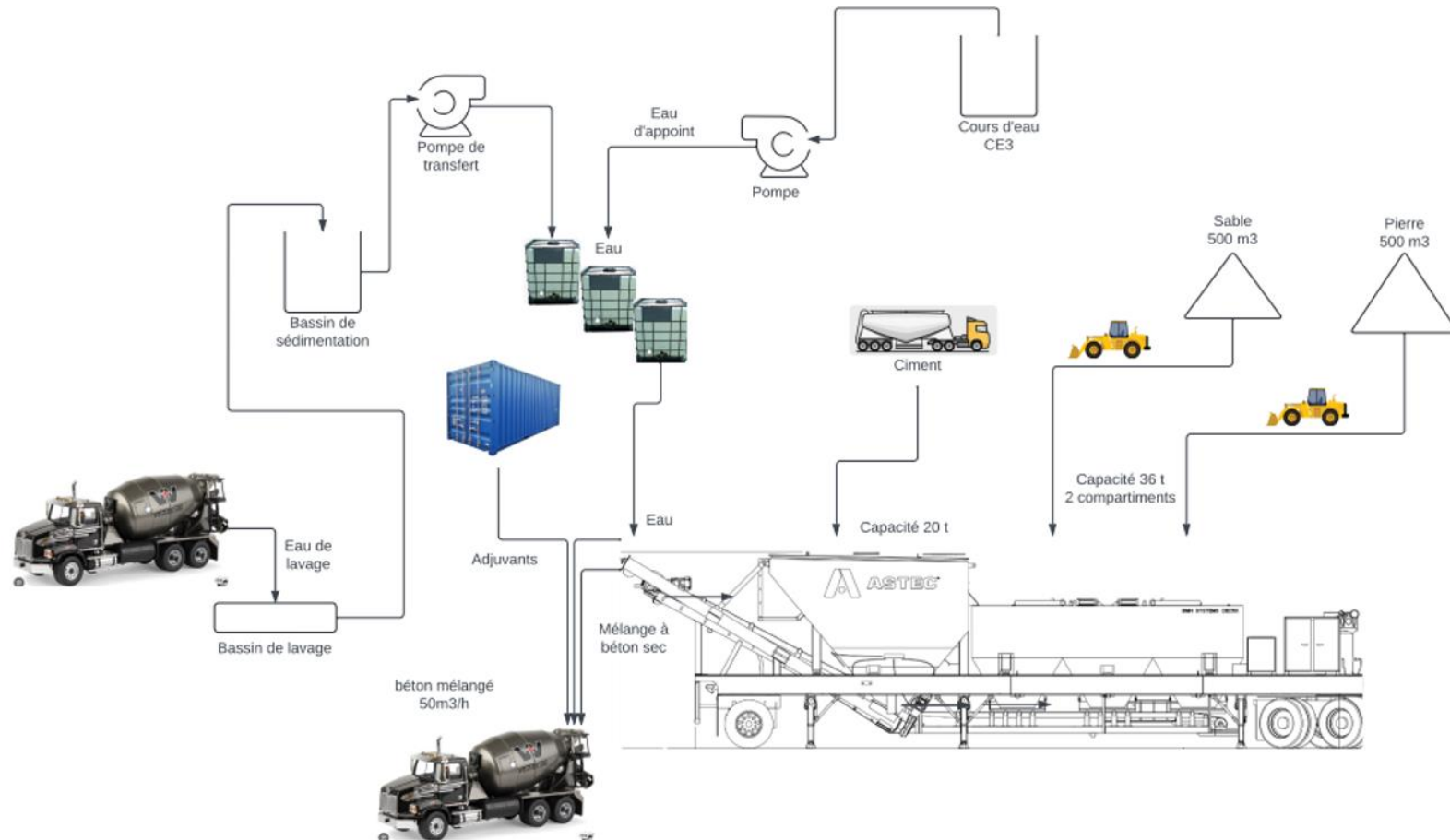


Figure 6-3. Summary diagram of concrete plant operations

6.2 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

In the EIA (WSP, 2021a), the concrete plant's operations in the construction period were considered a dust source as well as a source of exhaust gas (via the mobile equipment) due to storage and loading of materials, but they were not indicated as a noise source. In addition, surface water catchment to supply the concrete plant's operations and management of runoff and concrete mixer washwater could provoke adverse effects on fish and fish habitat.

In the Stantec Air Dispersion Modelling (2022), the concrete plant used during the construction phase is part of the emissions sources considered. In this modelling, it is mentioned that to control air emissions, a dust collector will be present. The modelling results in the construction phase show, at the sensitive human receptors identified, compliance with the standards of the Clean Air Regulation (CAR) and the Canadian Ambient Air Quality Standards for gaseous compounds and total particulate matter, except for the Canadian standard (CAAQS) on nitrogen dioxide in a one-hour period (Stantec, 2022).

To limit cement particulate emissions, the concrete plant will be equipped with a filter dust collector. Designed specifically for this plant, the dust collector is directly connected to the cement bucket by seal-tight lines, allowing efficient capture of the emissions generated during dry mixing. Its main objective is to reduce dust dispersion significantly during this operation. The guaranteed minimum efficiency of the dust collector is 99.9%. An air and sound emissions monitoring system will be in place to comply with the applicable standards. Regular inspections of the dust collector and the control systems will be conducted in accordance with the manufacturer's recommendations.

A technical report was also prepared to assess the noise impact of the concrete plant and its dust collector (Appendix G). The report concludes that the noise contribution from the concrete plant and its dust collector is negligible. Taking this contribution into account, noise levels during the construction phase remain below both provincial and federal noise standards.

The surface water source initially identified to supply the concrete plant's operations was Kapisikama Lake, while the new concept now plans to obtain its water supply first from watercourse CE3. It was identified in the EIA that the water supply in Kapisikama Lake, at 300 L of water per m³ of concrete produced, could lower the water level of this lake during the construction phase. However, it is important to remember that this lake eventually will dry up in the operating period after dewatering of the pit.

GLCI also integrated commitments into its Environmental and Social Monitoring Program in relation to development of water intakes in fish habitat, including:

- Ensuring design, installation and operation of any water intake in the natural environment to prevent accidental catching of fish by entrainment (sucked up in the water intake) or impaction (trapped in the water intake end-of-pipe) with fish protection screens;

- Ensuring compliance with the guidelines of the DFO's Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater;
- Monitoring by regular inspections of the pumping equipment and the fish protection screen to detect any fish-related anomaly.

Also, as initially planned, the wastewater from washing the concrete mixers and the equipment will be collected and treated in two (2) settling ponds, then pumped to the storage tanks and reused in the process. In case the capacity of the ponds is exceeded, the water will be pumped into another pond where the water quality will be analyzed (pH, SS). Based on the compliance of the results with the applicable requirements (particularly under the Fisheries Act), the water may be discharged into the environment. There will be periodic inspections of the ponds to guarantee their correct operation. The sedimentation sludge will be collected once it is solidified, then disposed of in accordance with the practices in force. Furthermore, the runoff water that will come into contact with the zone developed for operation of the concrete plant and the adjacent storage areas will be directed to a settling pond developed at the start of the construction phase to minimize the discharges of suspended solids to the wetlands and water environments.

To limit dust dispersion from the material piles (sand and aggregates), they will be watered, when required.

The diesel generator that will supply the plant will be equipped with a retention basin to prevent leaks and spills.

In addition, GLCI undertakes to implement the complete environmental and social monitoring program for the Galaxy Mine Project (Arcadium Lithium, 2024). This program includes, among other measures, in the construction period, monitoring of air quality, the sound climate, surface water and fish habitat.

Consequently, in relation to fish, fish habitat and other aquatic species, although no new environmental effect is apprehended in view to the deployment of the above-mentioned measures and monitoring, the new concept changes the water supply source. An assessment of the impacts of withdrawal of approximately 24 m³/h in CE-3 and in Kapisikama Lake was produced (WSP 2023, see Appendix F). This study recommends preferring a water supply mainly from watercourse CE-3, except for the low water period during which the supply will be obtained from Kapisikama Lake to minimize the impacts on CE-3 during this low streamflow period. Moreover, during the flood period, a larger withdrawal of approximately 34 m³/h may be made from CE-3 without increasing the impact on this watercourse. The withdrawal rate thus will be adjusted according to the seasonal variations of the watercourse. To reduce the effects generated by the development of the water intake in stream CE3, all the mitigation and monitoring measures presented above will be deployed.

Nonetheless, let us note that in the operating period, the EIA mentions that dewatering the pit will have an impact on the average streamflows (reduction of around 20%), low water (reduction of around 37%) and flood (reduction of around 22%) of watercourse CE3. This will also have the effect of reducing the water levels (low water, average and flood levels).

No new environmental effect is apprehended in relation to the new concrete plant concept for migratory birds and species at risk. Indeed, the main impacts will have been felt during development of the mine site with its various infrastructure, resulting in loss and degradation of habitats. Moreover, all the mitigation measures planned in relation to migratory birds and species at risk under the project in general will reduce the disturbance and the effects on these components.

Finally, because the proposed change is in the same sector as the one originally planned and already developed, no additional adverse impact is expected on the current use of lands and resources for traditional purposes by the Indigenous peoples, nor on the natural and cultural heritage, and on structures, places or things of historical, archaeological, paleontological or architectural importance for the Indigenous peoples. In addition, no new impact is expected on the health, social or economic conditions of the Indigenous peoples.

7 CONCLUSION

This document had the objective of presenting the IAAC with the changes made to the Galaxy Mine Project, following the revision of the design of certain components of the project in view of optimizing operations. These changes concern:

- Primary crusher feed mode;
- Propane heating of the industrial sector buildings;
- Addition of silos to load tailings;
- Change of the concrete plant type in the construction phase..

The proposed changes to the project were detailed, as well as the effects on the components of the environment and the Indigenous peoples, as the case may be. It turns out that the impacts of the changes to the project are minor and that, with the deployment of the different mitigation monitoring and follow-up measures, they do not risk significantly affecting the valued components of the environment and the Indigenous peoples. Based on this information, the IAAC will be able to determine whether the 2023 Decision Statement (reissued on July 26, 2024) and the conditions associated with it reflect the project in its current form and allow mitigation of all the environmental effects.

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