



Executive Summary

Galaxy Lithium (Canada) Inc. (the Proponent) proposes the construction, operation, and decommissioning of an open-pit lithium mine in the administrative region of Nord-du-Québec, in the Eeyou Istchee James Bay territory, more specifically on the traditional lands of the Cree Nation of Eastmain. The mine site would be located approximately ten kilometres south of the Eastmain River and 100 kilometres east of James Bay and the Cree Nation village of Eastmain. The James Bay Lithium Mine Project (the Project) would include, in particular, an open pit; accumulation areas for ore, waste rock, tailings, and overburden; a spodumene mill; and minewater management installations including a water treatment plant. Access to the site would be accessible via the Billy-Diamond Highway from Matagami. An air shuttle (*fly-in/fly-out*) system would be preferred for non-resident workers who would be housed in a camp located in the industrial sector of the projected mine. The mine would have a production capacity of 5,480 tonnes per day. The Proponent plans to operate the deposit for 18.5 years, for average annual production of 331 kilotonnes of spodumene concentrate, from which lithium would be extracted.

Under the *Canadian Environmental Assessment Act, 2012* [CEAA 2012], the Project is subject to an environmental assessment by the Impact Assessment Agency of Canada (the Agency), because it includes activities described in paragraph 16(a) of the Schedule to the *Regulations Designating Physical Activities*.

“The construction, operation, decommissioning and abandonment of a new (a) metal mine, other than a rare earth element mine or gold mine, with an ore production capacity of 3,000 t/day or more.”

This Project is also the object of an environmental impact assessment and review under Chapter 22 of the *James Bay and Northern Quebec Agreement* (JBNQA).

To complete the environmental assessment process, the Agency and the Cree Nation Government, in 2019, signed the *Agreement Under the Canadian Environmental Assessment Act, 2012 Concerning the Environmental Assessments of the Rose Lithium-Tantalum and James Bay Lithium Mining Projects* (the Agreement), and delegated to a Joint Assessment Committee (the Committee), composed of representative appointed by the Agency and the Cree Nation Government, the carrying out of the activities required under CEAA 2012.

The Committee prepared this Environmental Assessment Report, accounting for the concerns and comments of the Cree Nation of Eastmain, the Crees of the First Nation of Waskaganish, the Cree First Nation of Waswanipi, and the public. The Committee also accounted for the technical opinions of Environment and Climate Change Canada, Fisheries and Oceans Canada, Health Canada, Natural Resources Canada, Transport Canada, Public Services and Procurement Canada, the Cree Board of Health and Social Services of James Bay, the Quebec Ministère des Forêts, de la Faune et des Parcs and researchers from the Université du Québec en Abitibi-Témiscamingue. Primary concerns expressed were regarding the quality of the water, air, and soil and the possible contamination of traditional food. Concerns were also raised regarding hunting, fishing, trapping, and gathering activities and the wildlife and plant species that could be



associated with them. Concerns about road traffic, the massive arrival of non-Indigenous workers, business opportunities for companies, and access to jobs and training were also submitted.

This report presents the assessment of the Project's potential environmental effects and the Committee's conclusions, namely whether the Project is likely to lead to significant adverse environmental effects, with the implementation of the mitigation and follow-up measures. The Committee reviewed the effects the Project is likely to have on:

- the valued components under Federal jurisdiction, as described in subsection 5(1) of CEAA 2012, including:
 - fish and fish habitat;
 - migratory birds;
 - the current use of lands and resources for traditional purposes by the Indigenous peoples including loss or alteration of access for use by Indigenous peoples; and
 - health of the Indigenous peoples;
- wetlands, a valued component directly linked to a federal decision that would permit the carrying out of the Project, in accordance with subsection 5(2) of CEAA 2012; and
- the species listed in Schedule 1 of the *Species at Risk Act* (SARA) and their critical habitat.

The Committee also accounted for the points indicated in subsection 19(1) of CEAA 2012.

This report presents the Project's impacts on the rights of the Cree Nations through a conceptual framework based on Cree values. These values are at the core of the Cree identity and the rights established under the JBNQA and recognized by section 35 of the *Constitution Act, 1982*. In particular, the Project could have impacts on Cree values such as health, welfare, economic prosperity and hunting, trapping and fishing.

The environmental assessment conducted by the Agency brought out the following potential main environmental effects:

- Effects on fish and fish habitat resulting from the harmful alteration, disruption or destruction of habitat, particularly due to the gradual drying up of Kapisikama Lake, hydrological changes to the watercourses and changes in water quality.
- Effects on the wetlands due to their destruction or disturbance, caused by the development of mine infrastructure and the drawdown of the water table.
- Effects on birds and bird habitat, in particular, Common Nighthawk and Rusty Blackbird, two bird species at risk whose presence was confirmed during inventories. These effects would be caused, in particular, by habitat loss and degradation resulting from the development of mine infrastructure or by the Project's activities that could engender risks of collision and disturbance by noise, artificial light and the human presence. The Committee specifies that six other bird species at risk protected by SARA and one threatened bird species according to the Committee on the Situation of Endangered Wildlife in Canada (COSEWIC) could potentially be present in the sector.



- Effects on certain species at risk, including Woodland Caribou, Little Brown Myotis and Northern Myotis, due to habitat loss, the increased risk of predation and the disturbance caused by noise, vibrations and artificial light.
- Effects on the current use of lands and resources for traditional purposes by the Cree Nations, in particular on the practice of hunting, fishing, trapping and gathering. The quality of the experience in the territory could be affected by the disturbance of the sense of peace and the perception of hazards related to road safety and contamination of traditional food.
- Effects on the health of the Cree Nations arising from the contaminant emissions into the air and water. These emissions could affect the traditional resources hunted, fished or gathered for consumption by the Cree Nations.
- Cross-boundary environmental effects in relation to greenhouse gas (GHG) emissions, although they would be moderate in comparison to the emissions on the provincial and national scale.
- Effects on the natural and cultural heritage due to the development of mine infrastructure;
- Effects on the socio-economic conditions of the Cree Nations due to a potential impact of the Project on traditional income-generating activities.

The Proponent is obligated to implement many mitigation measures, which it committed to during the assessment, to reduce or avoid the Project's adverse effects. Offset measures are also proposed to counterbalance certain residual adverse effects. The Committee therefore established the key mitigation measures necessary to avoid any significant adverse environmental effects, accounting for the measures proposed by the Proponent, the opinion of the government experts, and observations received from the Cree Nations and the public. These mitigation measures non-exhaustively include:

- an offset plan to counterbalance the residual effects on fish and fish habitat, particularly the losses related to harmful alteration, disturbance and destruction of fish habitat;
- an offset plan for wetland losses;
- a minewater management program, so that it is captured, treated, and discharged into the effluent, with the goal of minimizing the effects on water quality. This program includes, in particular, the installation of a geomembrane under the ore pile and the haulage roads, so as to prevent groundwater contamination;
- a dust management plan, supported by an air quality follow-up program;
- a traffic control plan, including transportation activities by heavy truck;
- a reduction of concentrate transportation and waste rock handling during the annual moose and goose hunting periods to reduce the disturbance;
- a clause in the employees' contracts of employment to prohibit hunting, trapping, and fishing activities within the mining lease;
- an exclusion zone for traditional activities for safety reasons;
- the hiring of a liaison officer for the Cree Nation of Eastmain, whose role, in particular, would be to inform the Cree Nations about jobs and contracts offered by the Proponent, ensure the harmonious integration of the Cree workers, and raise the non-Cree workers' awareness of Cree culture;



- a complaint reception and handling system that could allow for the implementation of additional mitigation measures, as needed; and
- a communications plan to inform the Cree Nations, the Cree Nation Government, the Cree Board of Health and Social Services of James Bay, the rest area staff, the users of the territory, and the mine employees about the schedule of mining activities, the incidents, the handling of complaints, and the results of the various follow-up programs.

In addition, the Committee established the follow-up requirements to verify the expected effects on the valued components and the effectiveness of the proposed mitigation measures. These follow-ups would enable the Proponent to take corrective actions, if necessary.

In this report, the Committee concludes that the Project is unlikely to lead to significant adverse environmental effects, given the implementation of the key mitigation measures. The Committee also concludes that the Project, combined with the past, present and reasonably foreseeable projects, is unlikely to lead to significant adverse cumulative environmental effects on fish and fish habitat, wetlands, migratory birds and birds at risk, Woodland Caribou and chiroptera at risk. The Committee recognizes that the Project could lead to cumulative residual effects on the current use of lands and resources for traditional purposes, including effects on navigation, which may have cumulative effects on access to the practice of rights. However, these effects would not be significant considering the application of the recommended mitigation measures.

The Committee has collected the comments of the Cree Nations, the government experts and the public on the draft report and the potential conditions. These comments have been taken into consideration to finalize the Environmental Assessment Report and the potential conditions, which then will be submitted to the Minister. If the Minister determines that the Project is unlikely to lead to significant adverse effects, he will set the conditions for carrying out the Project in his Decision Statement issued under CEAA 2012. The Proponent thus will be bound to comply with the conditions set out by the Minister, but without releasing itself from the obligation to implement all the commitments it established in its Environmental Impact Statement and subsequent documentation provided as responses and comply with the other legislative requirements of the federal, provincial or local governments. If the Minister determines that the Project is likely to cause significant adverse environmental effects, he will refer the matter to the Governor in Council for a determination of whether those effects are justified in the circumstances.