



WHABOUCHI PROJECT

Description of a designated project
as required by the
Canadian Environmental Assessment Act, 2012

SUMMARY

For submission to the
Canadian Environmental Assessment Agency (CEAA)

November 2012

EXECUTIVE SUMMARY

GENERAL INFORMATION

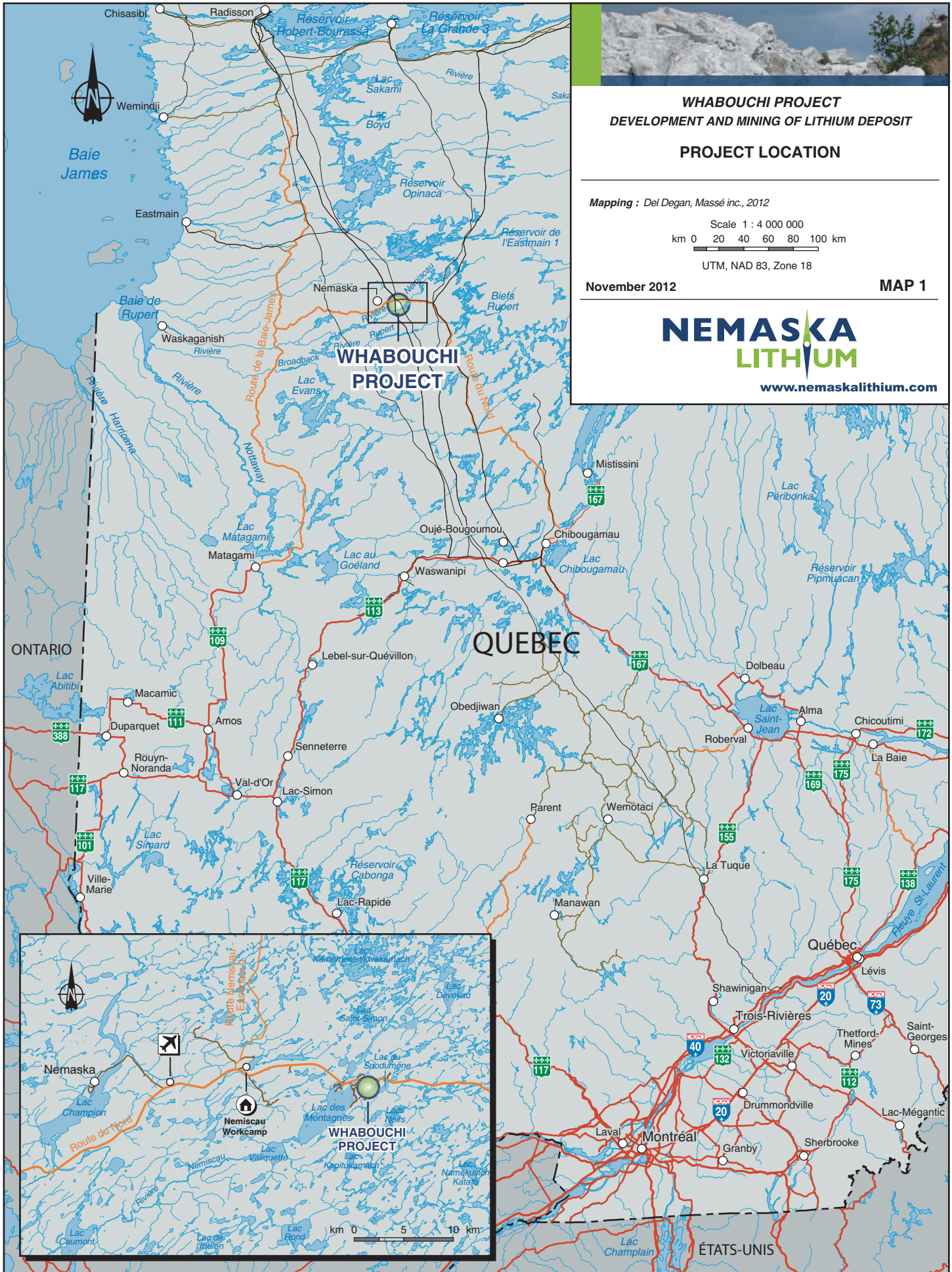
Nemaska Lithium Inc. aims to develop and operate an open-pit mining a spodumene deposit in the territory of James Bay in the province of Quebec (Map 1). The deposit (75°51'49.7" W, 51°40'42.0" N) is located 30 km from the Cree Nation of Nemaska.

INFORMATION ON THE PROPONENT

| | |
|---------------------------------|---|
| Name of the designated project: | Whabouchi Project |
| Name of the proponent: | Nemaska Lithium Inc. |
| Address: | 450, rue de la Gare-du-Palais, 1st floor Québec (Québec) G1K 3X2 Canada |
| Telephone: | 418 704-6038 |
| Fax: | 418 614-0627 |
| Email: | info@nemaskalithium.com |
| Main contact: | Mr. Guy Bourassa President and Chief Executive Officer |
| Secondary contact: | Mr. Pierre Demers, Eng. Vice-president Development |

The project is subject to the Quebec environmental and social impact assessment and review process as established in the *James Bay and Northern Quebec Agreement* (JBNQA) and the *Environment Quality Act* (EQA). In addition to provincial requirements, the Whabouchi project also falls under the jurisdiction of the *Canadian Environmental Assessment Act (CEAA), 2012* and the *Regulations Designating Physical Activities* (RDPA).





PROJECT INFORMATION

The Whabouchi project is subject to provision 8 of the *Regulations Designating Physical Activities* (RDPA) under the *Canadian Environmental Assessment Act, 2012*, i.e.:

“The construction, operation, decommissioning and abandonment of an installation designed to extract 200 000 m³/y or more of groundwater, or the upsizing of such an installation which would increase its production capacity by more than 35%”.

Moreover, the following provisions also apply:

Provision 15a of the RDPA, i.e. the *“The construction, operation, decommissioning and abandonment of:*

(a) a metal mine, other than a gold mine, with an ore production capacity of 3 000 t/d or more”.

The Whabouchi project involves the open-pit mining a spodumene deposit. The spodumene will be concentrated on site before being transferred to a lithium hydroxide and lithium carbonate processing plant. The economic mineralization of the deposit is the spodumene deposit. The measured and indicated resources are 19 600 millions of tons with a 1.49 % lithium content (Li₂O). The mine will supply 3 000 tons per day of ore to the concentrator, i.e. about 1 million tons/year.

The ore extraction activities will take place 24 hours/day, 365 days/year. They will involve conventional open pit with drilling and blasting sequences followed by transport of the ore to the crusher located at the surface, in the vicinity of the mine. The final product of the concentrator will be transported to a processing plant located outside of the project area (and therefore not included in the present study).

The main infrastructures of the project are (see map 2):

- The concentrator;
- Administrative and technical buildings
- Sedimentation ponds;
- Runoff catchment systems or runoff drainage ditches
- Garage Fuel depot;
- Explosives storage area;
- Open pit;
- Waste rock and tailings pile
- Overburden



The project will draw its power from two existing Hydro-Québec stations located in the area. A 25-kilovolt (25 kV) aerial electrical transmission line will be built from one of the stations to a new step down power transforming substation (4.16 kV) located 20 km away.

To operate the mine, additional activities must also be conducted including, but not limited to:

- Brush and tree clearing and soil stripping for infrastructures construction;
- Construction of pits and ponds;
- Drilling of a water-supply well;
- Waste rock and tailings transportation and management;
- Hazardous materials management;
- Residual materials management;
- Hydrocarbon products management
- Petroleum product management;
- Wastewater management;
- Proposed detour of the Route du Nord next to the mine site.

PROJECT LOCATION

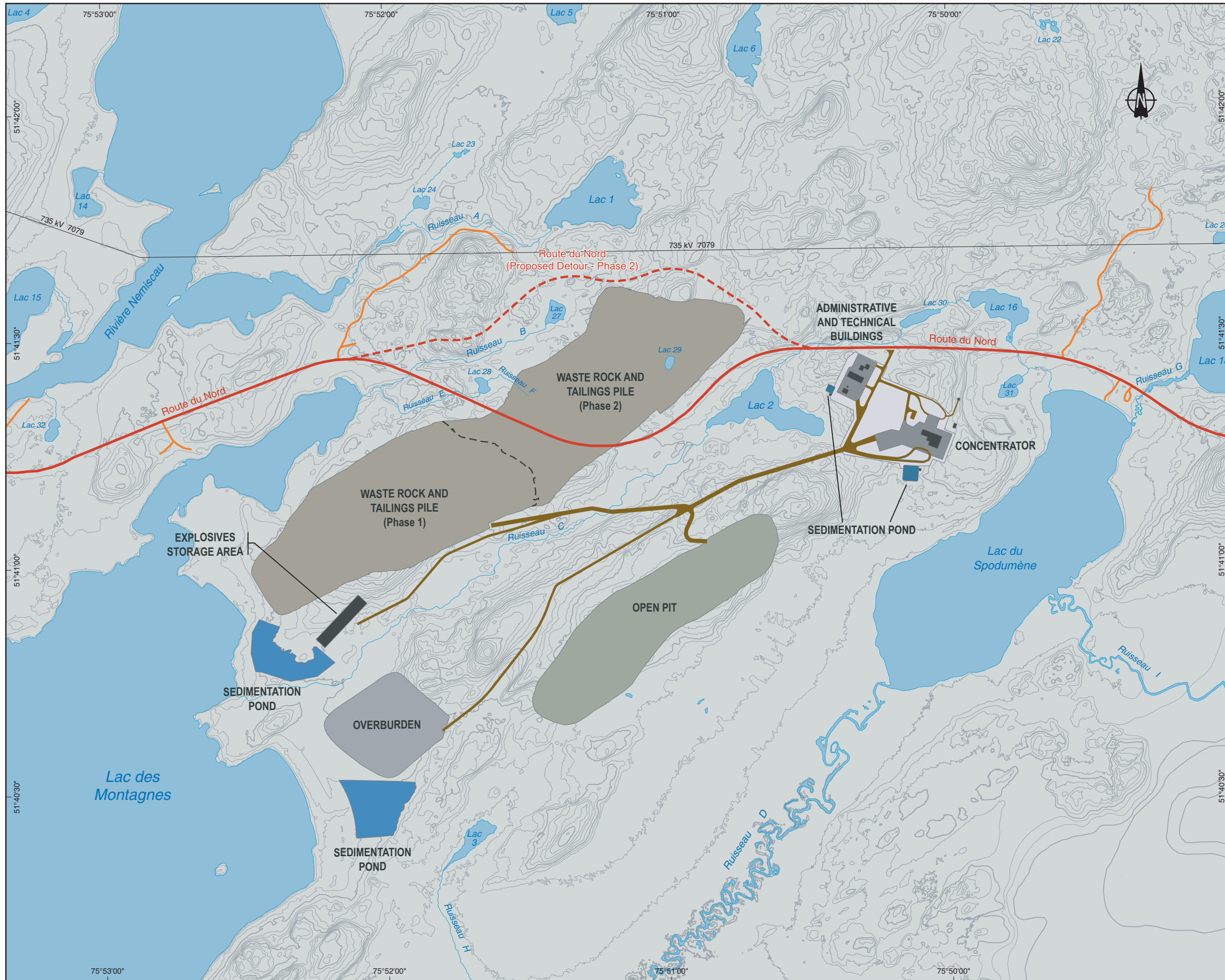
The Whabouchi project is located in the James Bay territory of Québec province (75°51'49.7" W, 51°40'42.0" N). More specifically, it is located 25 km from the Cree Nation of Nemaska. The mining site is accessible by land via the Route du Nord. It is also accessible by air from Nemiscau airport, located 18 km west of the mine.

The mine is located within a territory that falls under the jurisdiction of the *James Bay and Northern Quebec Agreement (JBNQA)*. All mining activities will take place on category III land and on the Nemaska community's R20 trapline.

The property is composed of a bloc of 33 contiguous claims, for a total surface of 1 716 ha. A concession granted by the Ministry of Natural Resources (MNR) pursuant to the Loi sur les mines du Québec, allows an exclusive right of exploration for minerals on a tract of land of about 53 ha.

No Federal Crown land, nor rights-of-ways or rights-of-cession that could be under federal jurisdiction are found in proximity to, or on the site of the Whabouchi project.





WHABOUCHI PROJECT
DEVELOPMENT AND MINING OF LITHIUM DEPOSIT

MAIN INFRASTRUCTURE

Project Components

Transmission Lines

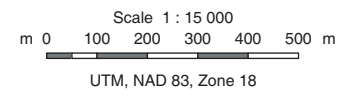
Roads

Main Road
Secondary Road

Hydrography

Surface Hydrography
Linear Hydrography

Mapping :
Del Degan, Massé inc., 2012



November 2012

MAP 2

On that trapline, the main activities of the aboriginal peoples include hunting, fishing and trapping of fur bearing animals. There are several aboriginal peoples' camps located in the proximity of the mining site but all camps lie outside of the mining site. Fur bearers are trapped in wintertime. Big game and waterfowl are hunted primarily in autumn. Geese are hunted in the springtime in several areas of the trapline. Fishing is practiced essentially on the main water bodies and rivers of the R20 trapline.

Some of the valued or heritage sites on the trapline comprise several birthplaces. It is reported that there are also burial sites, several ancient valued campgrounds and two archeological sites. The important or valued sites on or in the vicinity of the mining site have already been identified during consultations with the community. Ensuring the integrity of these places is a priority.

EMISSIONS, EFFLUENTS AND WASTE

Sources of Emissions of Atmospheric Contaminants

In the context of the on-going environmental assessment for the Whabouchi project, potential impacts of the projected mine on air quality will be assessed using the AERMOD software, version 12060.

The area targeted for modeling will include a 10x10 km surface area centered on the main activities of the projected mine site. The modeling will be based on worst case scenario conditions that could occur during the mine exploitation phase. This scenario will be based on the assumption that all activities are conducted simultaneously for a 24 hour period. It will also include construction activities related to the Route du nord diversion (planned for bypassing the tailings).

Potential Atmospheric Contaminants

Table 1 presents the list of contaminants considered in the modeling. Provincial regulations are used, and when inexistent, Canadian or Ontarian rules are applied. Potential contaminants include the list of gases considered to contribute to the greenhouse effect.



Table 1 List of potential contaminants of concern included in the modeling

| Contaminant | Period (h : hour; m : minute) | Norm or criteria ($\mu\text{g}/\text{m}^3$) | Source of Norm or criteria |
|--|----------------------------------|--|-------------------------------|
| PST | 24 h | 120 | Quebec |
| PM ₁₀ | 24 h | 50 | Ontario interim |
| PM _{2.5} | 24 h | 30 | Quebec |
| NO ₂ | 1 h | 414 | Quebec |
| | 24 h | 207 | Quebec |
| | Annual | 103 | Quebec |
| SO ₂ | 4 m | 1050 | Quebec |
| | 24 h | 288 | Quebec |
| | Annual | 52 | Quebec |
| CO | 1 h | 34 000 | Quebec |
| | 8 h | 12 700 | Quebec |
| Barium (metal and soluble compound) | Annual | 0.05 | Quebec |
| Beryllium (and compounds) | Annual | 0.0004 | Quebec |
| Cadmium (and compounds) | Annual | 0.0036 | Quebec |
| Chromium | Annual | 0.004 | Quebec |
| Cobalt | 24 h | 0.1 | Ontario AAQC |
| Copper | 24 h | 2.5 | Quebec |
| Lead (and compounds) | 24 h | 0.5 | Ontario |
| Lithium | 24 h | 20 | Ontario |
| Manganese (and compounds) | 24 h | 2.5 (current) 0.4 (future 2016) | Ontario |
| Nickel (and compounds) | 1 h | 6 | Quebec |
| | Annual | 0.012 | Quebec |
| Zinc | 24 h | 2.5 | Quebec |

Sources and Disposition of Liquid Rejects

As mentioned above, there will be two sedimentation ponds for the collection of runoff waters from the tailings and waste pile, as well as the runoff from the pit dewatering process. The ponds will be large enough to collect suspended matter before releasing in the environment. On-going geochemical baseline studies added to information on substrata water quality suggest that only suspended matter will need to be eliminated before releasing in the environment.



Sources and Disposition of Solid Waste

Tailings and Mining Waste

During the exploitation phase, close to 60 million tons of waste rock and tailings from the concentrator will be disposed of in the tailings. As extraction progresses, Nemaska Lithium Inc. intends to progressively restore affected areas.

Geochemical characterization tests have demonstrated that the tailings and waste piles will not generate acids, nor will there be lixiviation of metals in natural conditions of exposure. On-going kinetic tests will soon allow to validate this hypothesis. Runoff and exfiltration waters will be collected in a pit at the periphery and treated for suspended matters only. For this reason, runoff waters and exfiltrations will be collected in a peripheral ditch and treated for suspended matter only.

Mining Waste

Two types of mining waste will be produced at the concentrator: a coarser waste will be generated through dense material separation, and a fine one will result from the use of flotation cells. Both types will be combined and then transported by truck to the waste pile, where they will be mixed with the waste rock excavated from the pit.

Management of Hazardous Residual Materials

Hazardous residual materials, such as waste oils, batteries, etc., will be managed in accordance with applicable provisions and regulations. There will be no landfill on the site of the mine. Waste will be disposed of outside the area, in an adequate location.

Construction Waste

All construction-related waste will be dealt with so as to allow recycling of metals and all other recyclable materials. Any waste that cannot be recycled should be sent to the landfill site of the community of Nemaska.

Domestic Waste

Domestic waste from the cafeteria, rest areas, administration offices and washrooms, will be taken to the landfill site of the community of Nemaska.

Management of Treatment Sludges

Waters collected on the site will be treated in the sedimentation ponds in order to extract suspended matter. Sludges resulting from the treatment process will be dried in geotubes and disposed of on the waste rock pile.



Management of the Septic Tanks Sludges

Septic tanks will be emptied periodically by a contractor who will manage sludges in accordance with all applicable regulations.

Management of Overburden

The overburden produced by stripping activities will be temporarily stockpiled. This material will be reused as much as possible in the context of the tailings site rehabilitation.

TIMETABLE FOR PROJECT IMPLEMENTATION

The development of the mine is designed in three separate phases. The first one consists in the construction of the mine site and should span a period of approximately 18 months, from March 2014 (Year 1) to September 2015 (Year 2). The construction phase includes site preparation activities. The mine will then be in operation for a period of approximately 19 years, from 2015 (Year 2) to 2034 (Year 21). The restoration of the tailings and waste rock pile will be done progressively during the operation phase. The estimated time for dismantling and restoring affected areas is two years, from 2034 (Year 22) to 2036 (Year 23) (see Table 2).

Table 2 Timetable for the project’s main phases

| Project Phase (Year) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|-----------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|---------|----|--|--|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Construction | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Operation | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Restoration of the tailings and waste rock pile | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | Closure | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |

FEDERAL GOVERNMENT PARTICIPATION

The federal authorities are not providing any financial support for the Whabouchi project.

The following federal laws and regulations may apply during the different phases of execution of the Whabouchi project. These are:

- *Canadian Environment Protection Act;*
- *Canadian Environmental Assessment Act, 2012;*
- *Fisheries Act;*
- *1994 Migratory Birds Convention Act;*
- *Navigable Waters Protection Act;*



- *Explosives Act;*
- *Species at Risk Act;*
- *Migratory Birds Regulations;*
- *Metal Mining Effluent Regulation*

REGIONAL ENVIRONMENTAL STUDY

No regional environmental study is being conducted or planned in the area where the project will be developed.

COMPONENTS OF THE PHYSICAL ENVIRONMENT

Hydrology and Surface Water Quality

The watershed of the mining site is part of the Rupert River watershed. The divide lines of the watersheds near the mining site show that the waters flow towards the Nemiscau River. Upstream of the mine, the Nemiscau River basin covers a surface area of 2 000 km². The confluence of the Nemiscau and Rupert rivers is located about 70 km downstream of the ore deposit.

A preliminary analysis of water quality data reveals that the surface waters in the vicinity of the mine are characteristic of James Bay ecosystems at that latitude. Several water bodies are somewhat acidic. Most chemical analyses give values that are below the detection limits; this is common for mineral-poor oligotrophic waters and indicates some sensitivity to acidification. Most metals occur below the detection limits but detectable concentrations of aluminium, iron, chromium, lead and zinc have been measured in some areas.

Soil and Sediments

Preliminary analytical results suggest that the sediments are generally of good quality with, however, a few high values for copper. The top soil horizon (0 – 5 cm) contains 80% organic matter where as the second soil horizon (5 – 10 cm) is composed of a mixture of 47.5 % organic matter and 42.5 % sand. The 10 to 50 cm soil horizon is dominantly sand (50%). Between 55 and 70 cm, the soil is composed of 36.8% sand, 26.3 % organic matter and 26.3 % rock. The 70 to 95 cm horizon contains some organic matter and equal quantities (28.5%) of sand and rock.

Climate

The area is characterized by a subarctic continental climate with strongly contrasting seasons, short cool summers and long harsh winters (bioclimatic zone 8 according the Gérardin-McKenny classification [2001]. The mean daily temperature is -20°C in January and 17°C in July. Spring thaw usually occurs in early June. The water bodies start to freeze in early November.



COMPONENTS OF THE BIOLOGICAL ENVIRONMENT

No protected area is located on the mining site or in its vicinity according to the information provided by the Québec government.

Vegetation and Wetlands

The vegetation of the area is characteristic of boreal forests. It is composed of spruce forests and peatlands. Much of the area was devastated by forest fires in the early 2000's. More than half of the mining property is covered by recent burns and regrowth. The mining site falls outside of the northern boundary of the commercial forests, according to the information obtained from the *Ministère des Ressources naturelles du Québec* (MRNQ). The fieldwork revealed no exceptional forest ecosystem (EFE) in the area. No rare plant associations or groups were observed in the field survey data at both regional and provincial scale.

The wetlands, essentially peatlands and in some cases marshes, cover a significant percentage (i.e. about 35%) of the study area (excluding the surface area of the water bodies). A wetland (bog) covering a large surface area is located south of the mining site, near the *Lac du Spodumène*.

No endangered plant species were observed within the perimeter of the study area. According to the information obtained from the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ 2012 – Québec conservation data centre), there is no mention of any endangered plant species on the mining site or within its vicinity.

Mammals

The large-mammal species that occur in the area are typical of those found in boreal forests. The presence, in the study sector, of moose, black bears and grey wolves has been confirmed. No sign of woodland caribou, wolverines or bobcats was observed in the area during the 2012 field survey. Ten (10) species of small mammals have been observed, notably the river otter, American marten, red fox, snowshoe hare, porcupine, red squirrel and Canadian beaver.

The little brown bat (*Myotis lucifugus*) was detected during the 2012 field survey. A breeding ground of about 300 individuals was identified in the vicinity of the mine.

Three species of micro-mammals were trapped in the study sector: deer mice, southern bog lemmings and shrews. The vole and shrews are in the process of being formally identified by the MNR.

Amphibian and Reptiles Fauna

Overall, four species of amphibians were identified in the 2012 field survey. These include the American toad, the wood frog, the northern spring peeper and the garter snake. These four species are considered to be generalist species in terms of both habitat and feeding.



Fish Fauna

Experimental fishing using various sampling methods was conducted to document the fish fauna in the vicinity of the mining site.

Thirteen species of fish were captured during the lake and stream field surveys. The most common species were, in decreasing order of relative abundance: lake whitefish, pearl dace, yellow walleye and brook trout.

The flesh of 39 specimens was analyzed for the occurrence of certain metals. The chemical analyses were conducted on brook trout, white suckers and lake whitefish. In all, 24 metals were analyzed; results are in the course of analysis.

Benthic Fauna

A total of 116 taxa were counted in all of the habitats sampled, with a taxonomic diversity ranging between 4 and 35 taxa, depending on the sample. Arthropods are dominant in all habitats except in the *Lac des Montagnes*, where mollusks are predominant.

Avifauna

The field surveys identified 85 species on the project site or in its vicinity. Six species of waterfowl (ducks and geese) are present in the vicinity of the site during the breeding period (Canada Goose, Black Duck, Greater Scaup, Bufflehead, Common Golden eye and the Common Merganser).

The Red-Tailed Hawk is the most common bird of prey in the area. Other species of birds of prey that were observed include the Osprey, the Northern Harrier, the American Kestrel and the Great Horned Owl.

Among the passerines, the warblers are the group with the greatest number of species, but the most abundant and common species is the white-throated sparrow.

Species at Risk

Woodland caribou (*Rangifer tarandus caribou*): In the area near the Whabouchi project, two ecotypes of woodland caribou can be observed. The first is the tundra caribou. It is observed during the winter period. On the other hand, the forest caribou (or boreal population) lives in the boreal forest throughout the year. The latter are considered to be an endangered species under the SARA (Species at Risk Act). No woodland caribou was observed during the airborne or land surveys. The potential impact of the project on the habitat of the woodland caribou is currently being analyzed.

Little brown bat (*Myotis lucifugus*): This species has a breeding ground of about 300 individuals in the vicinity of the mining site, north of the *Lac du Spodumène*, near the Route du Nord. Following an urgent estimation conducted in February 2012, the Committee on the Status of



Endangered Wildlife in Canada (COSEWIC) recommended classifying this species as an endangered species. The impact on the breeding ground has not been assessed but a monitoring plan will be set up with the provincial authorities.

Common Nighthawk (*Chordeiles minor*): An individual of this species was identified in the vicinity of the site above the peatland located south of *Lac du Spodumène*. The species was classified as endangered under the SARA, in 2007, owing to the significant decline in its population. The potential impact of the project on this species is currently being analyzed.

Olive-Sided Flycatcher (*Contopus cooperi*): This species was identified on two songbird sampling sites located outside of the mining site. The species was classified as endangered in 2007, under the Species at Risk Act, due to the recent significant decline in its population. No impact has been assessed for this species.

Aquatic Species: According to information obtained from several departments as well as from fieldwork surveys conducted, no aquatic species at risk, defined as such under the Species at Risk Act, are present on the projected mine site, or in its proximity.

COMPONENTS OF THE HUMAN ENVIRONMENT

The Cree Nation of Nemaska is located on the western bank of Lake Champion. It has a population of 722 inhabitants. Like for other Cree communities, the Nemaska population is characterized by its youth, the predominance of Cree as the mother tongue, a high birth rate and a population growth which is higher than the Quebec average.

Socio-Economic Aspects

From the economic aspect, the tertiary sector (services and administration) is predominant within the Nemaska community. The primary sector and construction are therefore minor economic activities, in terms of employment and labor. The small size of the population limits the potential labor pool for large-scale projects. Therefore, locally targeted investments in training programs will have to be considered to fill the specific needs of a mining project.

Among the social problems identified, alcohol abuse, drug consumption, juvenile delinquency, anxiety and suicide are among the community's main social concerns. Several organizations and social programs have been set up in Nemaska to tackle the various known social issues.

Archeology

Despite the numerous sectors inspected on and in the vicinity of the mining site, no new archeological site was identified during the field surveys. However, certain locations reveal that the Cree population area has been using this area in the past fifty years and up to present, for trapping and hunting spring goose (*Goose Break*).



Use of the Territory and its Resources

The Whabouchi site project is located within the limits of the R20 trapline, on category III land (JBNQA). As for the trapline as a whole, it is located on category II and III land.

Users of the R20 trapline concentrate their “harvest” activities near the *Lac des Montagnes*, Devoyau and Teilhard, as well as along the Nemiscau River. Other Cree populations using the territory include those with a camp near the Route du Nord and community members who attend Bible camp in the summer.

The R20 tallyman’s family uses three base camps and a seasonal camp for goose hunting. Many seasonal or temporary family camps are also scattered throughout different areas of the trapline. Furbearers are trapped in the winter (Canadian beaver, river otter, American mink, American marten). Big game and waterfowl are hunted mainly in the autumn. Spring geese are hunted in several sectors of the trapline. Red Grouse is hunted during the winter, in the right-of-way areas of the transmission line.

The trapline users fish essentially on large water bodies and rivers located on the trapline (yellow walleye, white sucker, lake trout, lake whitefish, lake Cisco and brook trout). They use traditional fishing techniques and sometimes fishing lines. They also practice ice fishing.

Among the valued places on the trapline, several breeding grounds, burial grounds, ancient valued campsites, archeological sites and Walking Outceremonial sites.

MAIN IMPACTS ASSESSED

Physical Environment

In the construction phase, the most obvious environmental impact in the development of an open pit mine is the move of overburden and the conversion of a natural site into an industrial site. This includes the footprint of the pit, the related infrastructures, the roads, the waste rock and tailings piles and waste products.

During the operating phase, several elements will impact the environment. Blasting work will cause an acoustic impact on the users of the R20 trapline as well as on the fauna. The landscape will gradually be altered by the increasing size of the mine pit and pile. The transport of the ore, waste rock and tailings by heavy machinery, in conjunction with the extraction operations will produce an acoustic impact and affect the air quality. Towards the end of the operating period, the waste rock and tailings pile will cover up an aquatic environment (pond).

The crushing and ore concentration plant will be a source of noise and dust. All activities related to the mine (operation, services, conveying the spodumene concentrate, etc.) will increase road transportation on the Route du Nord between Nemaska and Chibougamau. The site rehabilitation period will represent the last phase of a source of impact (noise, dust, etc.).



Water Quality

The quality of the water near the mine may be affected by extraction activities, notably the supply of suspended matter from the waste rock and tailings pile. The water management plan must include a comprehensive approach aimed at finding solutions to water quality issues. The water discharged from the site shall comply with environmental regulations and guidelines.

Air Quality

The effects on air quality are currently under study.

Biological Environment

Fish and Fish Habitats

We have estimated that the pit will reach a depth of about 150 m. The pit will cause the water table to drop. This drop may induce direct and indirect effects on fish and fish habitats by modifying the surface water system. Based on the available information, the effect of dewatering will probably be limited on the surface water receptors around the mining site.

According to the current layout of the installations, the ore extraction process will give rise to two final effluents. The water from these effluents will be directed to stream C (near its mouth with the *Lac des Montagnes*). We do not expect any impact on the level of the *Lac des Montagnes* or on the wetlands. The effects on stream C are currently being analyzed.

Runoff from the waste rock and tailings pile will increase with the size of the pile, which will reach its maximum footprint at the end of the operations. To comply with environmental requirements, runoff will be collected in a sedimentation pond before being discharged to the *Lac des Montagnes*. The flow rate will depend on the precipitation and periods of thaw. Given the surface area of the lake, the two effluents will produce no significant effect on the level of the *Lac des Montagnes* or on the flow rate of the Nemiscau River.

Only one stream will be crossed on the operation site. When available, the layout of the bridge will be provided to the authorities to determine if authorization is required under the *Navigable Waters Protection Act*.

The location of the waste rock and tailings pile will affect a water table located in the upper part of the pile. The impact on this habitat will occur in the last years of mining. This water body is a pond covering a surface area of 0.14 ha with no other surface connection to other water bodies.

A stream (stream C) located between the waste rock and tailings pile and the pit is located more or less parallel to these two installations. The stream will be impacted by the implementation of a runoff catchment system from the pile and by its use as an outlet of the wastewater sedimentation pond. The presence of brook trout at the mouth of this stream and in the upstream lake strongly suggests that this water body is a compulsory path for brook trout. Evaluations are underway to quantify the impact on the fish population passing through the lake.



Migratory Birds

According to preliminary results the migratory birds affected by the development of the project are mainly passerines which nest in habitats located on the projected mine site or in its vicinity. As the mining site has a small surface area, the presumed impact on these populations will probably be of little extent at regional scale, but the intensity of the impact has yet to be determined. According to the amplitude and scale of the impact, compensatory measures may be considered to minimize the residual impact. Obviously, all wood clearing and ground stripping work will be conducted in accordance with the 1994 *Migratory Birds Convention Act* and will take place outside of the breeding periods of these populations.

Species at Risk

No impact is expected on the four species at risk whose presence was detected in the vicinity of the site, i.e. the woodland caribou ecotype, the little brown bat, the common Nighthawk and the olive-sided flycatcher.

Human Environment

Socio-Economic Aspects

Several factors, such as the proximity of the project to the Nemaska community, the small size of the community and the economic importance of the project suggest that short, medium and long-term socio-economic spin-offs are to be expected. The impact study underway will assess the negative or positive effects which may result from the development of the project. It is probable that the effects will be similar to those identified for similar mines currently being developed or already developed on the *Eeyou Istchee* Cree territory. Hence, most of the direct effects on the community will be essentially related to the economic impacts. The project will provide, amongst other things, training and employment for many workers and the possibility of economic development for local enterprises.

The main estimated socio-economic impacts are:

- Increase risk of availability of illicit substances generated by the growing presence of workers from outside the community;
- Increase in concern relevant to the decline of the Cree cultural identity;
- Increase in the feeling of loss related to the changes in the traditional landscape;
- Increase in feelings of confusion related to the opposition between Cree values and non-native values;
- Anticipated effects on the community based locations are perceived as a threat to social cohesion;
- Effects on these locations could also impede the pursued or potential development of installations, tourism and other activities of community interest.

As few people in the community live permanently or temporarily very close to the mining site, the effects on the health of the aboriginal people will probably be quite limited.



All these aspects will be developed in the environmental and social impact assessment (ESIA) which is to be presented to the *Ministère du Développement durable, Environnement, Faune et Parcs* (MDDEFP).

Traditional Use of the Territory and Resources

The main anticipated impacts concerning the traditional use of the territory and its resources are given below:

- Permanent loss of part of the R20 trapline and temporary loss related to the different project phases;
- Disruption of natural resources caused by the loss or alteration of the habitats;
- Potential relocation of several family camps;
- Visual and acoustic effects on the shorelines and camps used for the community Bible camp;
- Decrease of the aesthetic value of the landscape for the Cree and other users of the locations in the vicinity of the mine, caused by the presence of the waste rock and tailings pile, the pit, the noise and the dust.

Other concerns of the community expressed in meetings regarding the development of the project:

- Involvement of land users and tallymen in the consultation process;
- Compatibility of mining activities with traditional Cree activities;
- Location and sizing of the waste rock and tailings pile;
- Distribution of benefits resulting from the project;
- Occurrence of noise, dust and pollution resulting from blasting and machinery;
- Increase in traffic on the Route du Nord and related risks (dust, deterioration of the surface, etc.);
- Available jobs and training possibilities, particularly for the community's young adults;
- Safety of the pit and mining site after its abandonment.

Ensuring the integrity of the traditional territory shall remain a priority but additional consultations are indispensable to better identify the needs and measures to be taken in agreement with the families concerned and the community.

PARTICIPATION AND CONSULTATION ACTIVITIES WITH THE ABORIGINAL COMMUNITIES, THE PUBLIC AND OTHER ENTITIES

To gain a better understanding of the potential social and economic impacts on the members of the Nemaska community, public and private consultations have been taking place since December 2011. Other public and private meetings are scheduled for the forthcoming months. Table 3 presents a summary of consultation activities carried out to date by Nemaska Lithium



Inc. in the community of Nemaska. It is important to note that a Community Advisory Committee (CAC) on the project was set up in January 2012 and has been engaged in discussions between Nemaska Lithium and the community.

Table 3 Consultation activities carried out since November 2011 in the community of Nemaska

| Period | Stakeholder/entity | Consultation format |
|-------------|---|---|
| 2011 | | |
| November | Band Council | Presentation of the project during a meeting of the Council |
| December | Band Council employees Community Organizations Representatives | Semi-directed individual interviews |
| 2012 | | |
| January | Band Council employees Community Organizations Representatives Land users of trapline affected | Semi-directed individual interviews |
| February | Band Council employees Community Organizations Representatives Land users of trapline affected | Meeting with the Community Advisory Committee Semi-directed individual interviews Radio program |
| March | Band Council employees Community Organizations Representatives Land users of trapline affected | Meeting with the Community Advisory Committee Semi-directed individual interviews Radio program |
| July | Community of Nemaska | Distribution of information brochure on the project |
| September | Community of Nemaska | Presentation during a community General Assembly |
| October | Community of Nemaska Women, Youth and hunters/trappers Land users affected by the project | Focus groups Semi-directed individual interviews |

The CAC meetings have enabled the members of the Nemaska community to express their social and environmental concerns relevant to the Whabouchi project. These consultations also contribute to developing a relationship of trust on which Nemaska Lithium Inc. will base the social acceptability of the project prior to the development of the mine and throughout its operation.



In addition to CAC meetings, discussion groups will take place with community elders, hunters, youth and women. These discussion groups will be an excellent communication tool to 1) better identify the issues and concerns of each group, 2) describe the positive and negative impacts of the project, 3) formulate the appropriate measures to be taken in the framework of the environmental and social impact study for the *Ministère du Développement durable, Environnement, Faune et Parcs* (MDDEP).

In the course of consultation meetings, concerns and comments expressed by Nemaska community members were noted for further reference. Table 4 summarizes concerns expressed during the Community Advisory Committee meetings (CAC) and answers provided by Nemaska Lithium Inc. It should be noted that most consultations took place when the project was still in its preliminary design stage. For this reason, Nemaska Lithium answered question and concerns as best as could be done considering the lack of precise information on certain aspects of the project. Answers to specific concerns expressed will be provided in greater detail in the course of the next scheduled CAC meeting.

Table 4 Concerns expressed during the CAC meetings

| Concern | Answer by Nemaska Lithium Inc. |
|---|---|
| Ownership right to the name « Nemaska Lithium inc. ». | Chief in Council and Band Council members authorized the use of the name “Nemaska” before it was registered as an official business name. This concern is also addressed in the information brochure on the project, that was distributed to the various stakeholders and community members. |
| Involvement of land users and tallymen in the consultation process. | Land users directly affected by the project were met in the context of semi-directed interviews. Families of traplines affected by the project were invited to participate in the CAC meetings. |
| Location and dimension of the tailings and waste rock pile. | Three potential locations were presented to the community. Reasons and criteria used to select the final location were discussed and explained. In order to minimize the visual impact, it was decided that the waste rock and tailings pile would be vegetated progressively, as the project develops. Discussions with the community are on-going regarding mitigation measures, namely with regards to anticipated visual impacts. |
| Distribution of benefits from the project. | The status of discussions regarding the Resource Development Partnership Agreement negotiations between Nemaska Lithium inc. and the Nemaska Band was explained. This agreement is similar to an Impact and Benefit Agreement (IBA). |
| Effects of mining activities on hunting and hunting camps. | It was mentioned that mitigation measures could be discussed with land users of camps that will be affected by the project. |



| Concern | Answer by Nemaska Lithium Inc. |
|---|---|
| Compatibility of mining activities with Cree traditional activities. | Accommodation measures such as the suspension of mining activity during the <i>Goose Break</i> were discussed in the context of RDPA negotiations. |
| Noise, dust and contamination produced by blasting and machinery. | Control measures related to these concerns were discussed with community members. It was explained that mitigation measures will be determined following the identification of impacts. These measures will be included in the Environmental and Social Impact Study (ESIS). |
| Effects on water quality and management of accidental spills. | It was explained that all measures would be taken to ensure that water will not be contaminated and that this topic will be further studied in the near future. At the time of the meeting, several technical aspects of the domestic and waste-water treatment, and its potential effects on water quality were still at an early stage of design. |
| Increase of road traffic on the route du Nord and risks associated (dust, damage of the surface, etc.). | The use of dust suppressants was discussed and recommendations made by community members were noted. Other mitigation measures related to impacts such as increased road traffic will be discussed when the project development will be further advanced. |
| Availability of jobs and training opportunities, in particular for youth in the community. | It was explained that Nemaska Lithium Inc. will prioritise the employment of all community members with equal skills; and Nemaska Lithium Inc.'s contribution in terms of training programs will be included in the RDPA, currently under discussion. |
| Safety of the pit and of the mine site after closure. | Community members' recommendations to ensure safety of the mine site after closure were noted. It was mentioned that community participation will be required at various stages of the site rehabilitation design and implementation. |

PUBLIC CONSULTATIONS

Organizations and Stakeholders Consulted

Since 2009, the president of Nemaska Lithium inc. met the municipal council and Mayoress of Chibougamau in order to inform them on the projected mine and its potential impacts and socio-economic spinoffs.

For instance, in May 2011, Nemaska Lithium Inc. did a presentation in the context of the Mining conference held in Chibougamau and hosted by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), branches Chapais-Chibougamau, jointly with the Ministry of Natural Resources and Wildlife (MNRW), Nord-du-Québec and Bureau d'exploration géologique du Québec), Développement Chibougamau and the Cree Nation of Mistissini. The majority of local



stakeholders were present during Nemaska Lithium Inc.'s presentation of the project and its potential spinoffs for the region.

On September 13, 2011 Nemaska Lithium inc. presented the Whabouchi project to the Chibougamau Chamber of Commerce. Close to 100 participants were present. This presentation was organized jointly with Développement Chibougamau,

Comments and Concerns of Organizations and Stakeholders

To this day no significant or important concern that could constitute a potential obstacle to the project's development was expressed during meetings with Chibougamau representatives, or with other stakeholders consulted. The only aspect that called for comments was that of the transport of concentrate. The increase of truck traffic in the centre of the town of Chibougamau should be avoided if possible. Nemaska Lithium Inc. will favor the circulation of trucks through the bypass road to access the transshipment point from where concentrate will be shipped out by train towards Salaberry-de-Valleyfield.

Consultation Activities

An open doors event will take place in Chibougamau in 2013 after submission of the Environmental and Social Impact Study (ESIS) to MDDEP. All concerns expressed by the town of Chibougamau and its citizens will be considered. Nemaska Lithium Inc. will be more readily able to address concerns of stakeholders, and to discuss economic impacts of the project.

According to information gathered and comments made to date, the Whabouchi project of Nemaska Lithium inc. is considered to be beneficial for the community of Chibougamau, mainly due to its economic spinoffs.

Consultations of Other Organizations

No other consultation was carried out with other organizations.

