

NOVADOR  
MINING PROJECT

DETAILED PROJECT  
DESCRIPTION  
SUMMARY

APRIL 2024

NOVADOR.CA

# SIGNATURES

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# TABLE OF CONTENT

## PART F - SUMMARY

1. Project Name, Sector and Proposed Location.....	6
2. Proponent Information.....	8
3. Summary of Engagement Activities.....	8
4. Summary of Engagement Activities with Indigenous Peoples .....	10
5. Studies, Plans or Regional Assessment .....	12
6. Strategic Assessment.....	13
7. Purpose, Need and Potential Benefits of the Project .....	13
8. Applicable Physical Activities Regulation Conditions .....	14
9. List of Activities, Infrastructures, Permanent or Temporary Structures and Physical Works .....	14
10. Estimation of the Maximum Production Capacity of the Project and Description of the Production Processes .....	19
11. Anticipated Project Schedule .....	19
12. Potential Alternatives .....	20
13. Description of the Proposed Location of the Project .....	27
14. Brief Description of the Physical and Biological Environments.....	30
15. Brief Description of the Health, Social and Economic Context .....	31
16. Financial Support .....	37
17. Federal Lands.....	37
18. Jurisdiction with Respect to an Assessment of Environmental Effects.....	37
19. Changes to the Environmental Components .....	38
20. Changes to the Environment that may Occur on Federal Lands, in a Province other than the Province in which the Project is Proposed or Outside Canada .....	39
21. Description of Impacts on Indigenous Peoples .....	39
22. Changes to Health, Social or Economic Conditions of Indigenous Peoples in Canada	40
23. Estimation of Greenhouse Gas Emissions .....	40



24. List of Types of Wastes and Emissions .....	41
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## LIST OF TABLES

Table 1: Project General Information .....	6
Table 2: Provisional Schedule of the Main Steps of the Project.....	19
Table 3: Socio-Demographic Data for 2021 for Val-d'Or, Lac Simon, Pikogan and Kitcisakik .....	32
Table 4: Economic Data for Val-d'Or, Lac Simon, Pikogan and Kitcisakik.....	35
Table 5: Potential Changes to Environmental Components.....	38
Table 6: Potential Changes on Indigenous Peoples .....	39
Table 7: Potential Changes on Health, Social and Economic Conditions of Indigenous Peoples.....	40

## LIST OF MAPS

Map 1: Location of Novador mining project.....	7
Map 2: Location of the Project Main Infrastructures .....	15
Map 3: Proposed Location Options for the Ore Processing Plant .....	22
Map 4: Proposed Location Options for Waste Rock Storage .....	24
Map 5: Proposed Location Options for Tailings Storage .....	26
Map 6: Elements of the Biophysical and Social Environments.....	29

# Part F Summary

NOVADOR.CA

## PART F: SUMMARY

### 1. Project Name, Sector and Proposed Location

Table 1 provides general information on Probe Gold Inc.'s (Probe Gold) Novador mining project.

**Table 1: Project General Information**

INFORMATION	DESCRIPTION
<b>Project Name</b>	Novador mining project
<b>Sector</b>	Mining and Minerals – Gold
<b>Proposed Location</b>	Approximately 25 km east of the city of Val-d'Or and approximately 8 km northwest of the Anishnabe community of Lac Simon, Québec (see Map 1).
<b>Type of Operation Planned</b>	Open pits and underground mine

Map 1 shows the location of the Novador mining project.





## 2. Proponent Information

Probe Gold Inc. is a leading Canadian gold exploration company focused on the acquisition, exploration, and development of highly prospective gold properties. The Company is committed to discovering and developing mineral projects, including its key asset, the Novador mining project in the region of Abitibi-Témiscamingue in Quebec where the Company has defined resources in the order of several million ounces.

Probe Gold's head office is in Toronto and the operations office and technical team are located in Val-d'Or, close to the Novador mine project site.

Probe Gold activities are carried out by a high calibre team with proven track-record and an extensive working history. The Board of Directors of the Company ensures that the activities and affairs of the Company are managed effectively to ensure the success of the Company.

## 3. Summary of Engagement Activities

As part of the project's development, Probe Gold organizes engagement activities involving various stakeholders and indigenous groups. These activities serve to present the project's key components and gather concerns and feedback. To date, representatives from Probe Gold have engaged with the following non-indigenous authorities and organizations:

- Abitibi-Témiscamingue Regional Environment Council
- Abitibi-Jamésie Watershed Organization
- Regional County Municipality of La Vallée-de-l'Or
- City of Senneterre
- City of Val-d'Or
- Cottagers of Bonnefond Lake
- Economic Development Corporation of the City of Senneterre
- Industrial Development Corporation of Val-d'Or
- Municipality of the Parish Senneterre
- Société de l'eau souterraine de l'Abitibi-Témiscamingue (SESAT)
- Val-d'Or Chamber of Commerce
- Val-d'Or Hunting and Fishing Association
- Université du Québec en Abitibi-Témiscamingue (UQAT)

Furthermore, discussions have taken place with Canadian National to explore the possibility of supplying goods related to mine operating activities and crossing the existing railway line at the project site. Discussions have also been held with Hydro-Québec to explore the



possibility of connecting the project site to the electricity network and the necessary steps to be taken.

Several other stakeholders were contacted by Probe Gold to inform them of the project and find out their interest in taking part in the engagement process:

- Sylvie Bérubé, députée de la circonscription d'Abitibi—Baie-James—Nunavik—Eeyou, Bloc Québécois
- Pierre Dufour, député de la circonscription d'Abitibi-Est, Coalition Avenir Québec
- Coopérative de développement régional d'Abitibi-Témiscamingue
- Femmes en affaires de la Vallée-de-l'Or
- Service de développement économique et entrepreneurial (SDLE) de la MRC de La Vallée-de-l'Or
- Société d'aide au développement de la collectivité (SADC) de La Vallée-de-l'Or
- Société du loisir ornithologique de l'Abitibi et du Témiscamingue (SLOAT)
- Club motoneige Val-d'Or Inc.
- Club Quad Vallée de l'Or et Abitibi
- Fédération québécoise des chasseurs et pêcheurs – Région Abitibi-Témiscamingue
- Regroupement des locataires des terres publiques du Québec (RLTP) – Région Abitibi-Témiscamingue
- Centraide Abitibi-Témiscamingue et Nord-du-Québec
- Centre d'aide et de lutte contre les agressions à caractère sexuel (CALACS) Abitibi
- Centre d'amitié autochtone de Val-d'Or
- Centre de bénévolat de la Vallée-de-l'Or
- Centre intégré de santé et de services sociaux de l'Abitibi-Témiscamingue (CISSS-AT)
- Concertation régionale des organismes communautaires de l'Abitibi-Témiscamingue (CROC-AT)
- La Mosaïque interculturelle
- La Piaule de Val-d'Or
- Maison de la famille de Val-d'Or
- Maison des jeunes — L'Énergiteck de Val-d'Or
- Office municipal d'habitation de la ville de Val-d'Or
- Regroupement des Associations de personnes handicapées de l'Abitibi-Témiscamingue (RAPHAT)
- Carrefour Jeunesse-Emploi d'Abitibi-Est
- Cégep de l'Abitibi-Témiscamingue — Campus de Val-d'Or
- Centre de services scolaire de l'Or-et-des-Bois
- Centre de formation professionnelle de Val-d'Or (Centre national des mines)
- Centre de service en emploi et formation de Val-d'Or (CSEF)

- Comité sectoriel de main-d'œuvre de l'industrie des mines (CSMO Mines)
- Conseil central de l'Abitibi-Témiscamingue–Nord-du-Québec (CCATNQ-CSN)
- Vision-Travail Abitibi-Témiscamingue

During these engagement activities, the main issues and concerns raised by non-indigenous authorities and organizations are as follows:

- Surface water and groundwater (protection of water courses, responsible management and consumption, water quality)
- Hydrous environments (protection of hydrous environments)
- Eskers (protection of eskers)
- Nuisances (noise, vibrations, and dust)
- Vegetation and wetlands (protection of terrestrial environments and wetlands)
- Wildlife (protection of wildlife species at risk and their habitats, notably the caribou)
- Socioeconomic aspects (local hiring and local purchasing, potential devaluation of properties at Bonnefond Lake)
- Land users (harmonious cohabitation, maintain access to Pascalis Road)
- History of the territory (use of old mining infrastructures)
- Communication (transparency and information sharing)
- Project (justification, innovation)
- Other subjects (carbon footprint, social acceptability, site restoration)

An engagement plan will be developed and presented as part of the impact study to ensure that non-indigenous stakeholders are involved in the development of the project.

The IAAC sent to Probe Gold a summary of the questions received as part of the public consultation carried out on the Initial Project Description (IPD). The answers to these questions are presented in Appendix A of the Detailed Project Description (DDP).

#### 4. Summary of Engagement Activities with Indigenous Peoples

On June 21, 2022, Probe Gold sent an invitation letter to the indigenous authorities identified by the Impact Assessment Agency of Canada (IAAC) to determine their interest as well as their intentions regarding their involvement in the development of the Novador mining project<sup>1</sup>:

- Algonquins of Barriere Lake
- Conseil de la nation Anishnabe du Lac Simon

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<sup>1</sup> Prior to January 2023, the Novador mining project was known as the Val-d'Or East project.

- Conseil de la Première Nation Abitibiwinni
- Conseil des Anicinapek de Kitcisakik
- Cree Nation Government
- Kebaowek First Nation
- Kitigan Zibi Anishinabeg
- Long Point First Nation
- Timiskaming First Nation
- Wahgoshig First Nation
- Wolf Lake First Nation

It should be noted that the following indigenous authorities declined Probe Gold's offer of invitation, mentioning that it preferred to make way for indigenous authorities located geographically closer to the Novador project site:

- Cree Nation Government
- Kebaowek First Nation
- Kitigan Zibi Anishinabeg
- Timiskaming First Nation

An invitation letter was also sent to the Algonquin Anishinabeg Nation Tribal Council. To date, Probe Gold representatives have met with the following indigenous authorities:

- Conseil de la nation Anishnabe du Lac Simon
- Conseil de la Première Nation Abitibiwinni

Following the meeting on June 28, 2023 with the elected members of the Anishnabe Nation Council of Lac Simon, a site visit to the Novador project was organized by Probe Gold. A second site visit is currently in preparation with the Anishnabe Nation Council of Lac Simon.

The main issues and concerns raised by indigenous authorities at these meetings are as follows:

- Air quality (dust and greenhouse gas)
- Surface water and groundwater (effective water management and protection, watershed of the Harricana River)
- Eskers (protection of eskers)
- Wildlife (protection of wildlife species at risk and their habitats, notably the caribou)
- Data acquisition (involvement of young people in environmental studies/fieldwork)
- Land and Resource Uses (continuation of traditional activities, harmonious cohabitation)
- Socio-Economic Aspects (business opportunities, jobs, school dropout, local contracts)
- Communication (existing Lac Simon protocol communication)



- Other subjects (Ecologo certification, mutual agreement contracts, availability of housing, cumulative effects, impacts and benefits agreement)

More recently, on April 1<sup>st</sup>, 2024, Probe Gold sent a letter by email to the following indigenous authorities to inform them of the submission of the detailed project description to the IAAC and ask them for their interest in receiving information on the Novador project and to participate in the mobilization process:

- Algonquins of Barriere Lake
- Apitipi Anicinapek Nation
- Conseil de la nation Anishnabe du Lac Simon
- Conseil de la Première Nation Abitibiwinni
- Conseil des Anicinapek de Kitcisakik
- Long Point First Nation
- Wolf Lake First Nation
- Conseil tribal de la nation algonquine Anishinabeg

Probe Gold representatives are in regular contact with members of the Lac Simon community on various topics, including employment opportunities or economic spinoffs or as part of exploration activities on their ancestral territory.

An engagement plan will be developed and presented as part of the impact study to ensure the active involvement of indigenous authorities and organizations in the development of the project.

As mentioned previously, the answers to the summary of questions sent by the IAAC following the public consultation period conducted from November 27 to December 17, 2023 on the initial project description (IPD) are presented in Appendix A of the detailed project description (DPD).

## 5. Studies, Plans or Regional Assessment

According to publicly available information, no regional assessment within the meaning of sections 92 and 93 of the Impact Assessment Act (IAA) has been conducted in the area of the Novador mining project.

## 6. Strategic Assessment

After the Impact Assessment Act (IAA) came into effect in 2019, Environment and Climate Change Canada (ECCC, 2020<sup>2</sup>) conducted a strategic assessment of climate change. To our knowledge, this is the sole strategic assessment conducted or ongoing under section 95 of the IAA pertaining to the Novador mining project.

## 7. Purpose, Need and Potential Benefits of the Project

The opening of a new gold mine in the Val-d'Or sector would contribute to the socio-economic sustainability of the region and meet global market demand for this metal.

The mining industry constitutes a key sector for the Quebec economy. According to the 2023 report of the Quebec mining industry, \$926 million in mining rights were paid to the Quebec government in 2021<sup>3</sup>. It is important to remember that the industry's total contribution to the Quebec public treasury reached more than \$1.8 billion, not including corporate tax, according to the latest report on the economic benefits of the Quebec mining industry for the year 2020. The sustainability of the Quebec mining industry relies in particular on investments and mining projects in development. The Novador project is therefore part of this continuity.

In the context where the mines currently in operation will reach the end of the exploitation of their resources in the coming years, the Novador mining project would play an essential role in maintaining the socio-economic vitality of the region.

Furthermore, on a global level, gold holds a significant role in maintaining the stability of financial markets, shaping economic relationships between nations, and ensuring political stability. Gold is also used in the manufacture of many electronic products as well as in the health field.

The results of the 2024 update preliminary economic assessment<sup>4</sup> are very positive and demonstrate that the Novador mining project, formerly known as Val-d'Or East project, would be economically viable. Even at a conservative gold price, well below current and forecast levels, the

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<sup>2</sup> Environnement et Changement climatique Canada (ECCC). 2020. Évaluation stratégique des changements climatiques. Révisée. Octobre 2020. 27 pages.

<sup>3</sup> Association minière du Québec (AMQ). 2023. Communiqué de presse. Bilan 2023 de l'industrie minière québécoise. 15 décembre 2023. Site internet : <https://amq-inc.com/bilan-2023-de-lindustrie-miniére-quebécoise/>

<sup>4</sup> Ausenco Engineering Canada ULC. 2024. Novador Project. NI 43-101 Technical Report and Preliminary Economic Assessment. Québec, Canada. Effective Date : February 13, 2024. 425 pages.

project would be viable, and the continuation of mining operations would be ensured through the ups and downs of economic cycles.

Employment is another important aspect of the project. In fact, during the operation phase, there would be approximately 250 workers will carry out surface operations while approximately 200 workers will carry out underground operations. It is anticipated that during the first years of operation, there would be approximately 140 workers at the ore processing plant while this number would subsequently decline somewhat to approximately 110 workers for the remainder of the mine life. In total, more than 550 workers will work on the Novador project.

## 8. Applicable Physical Activities Regulation Conditions

According to the Physical Activities Regulation, the construction and operation of a gold mine with an ore production capacity greater than 5,000 tonnes per day is identified as a physical activity. The Novador mining project is a physical activity and therefore becomes a designated project under the Impact Assessment Act.

In addition, section 18d of the Physical Activities Regulations relating to ore intake capacity at the processing plant applies because a new metal mill, other than a uranium mill, with an ore input capacity of 5,000 tonnes per day or more is planned under the project.

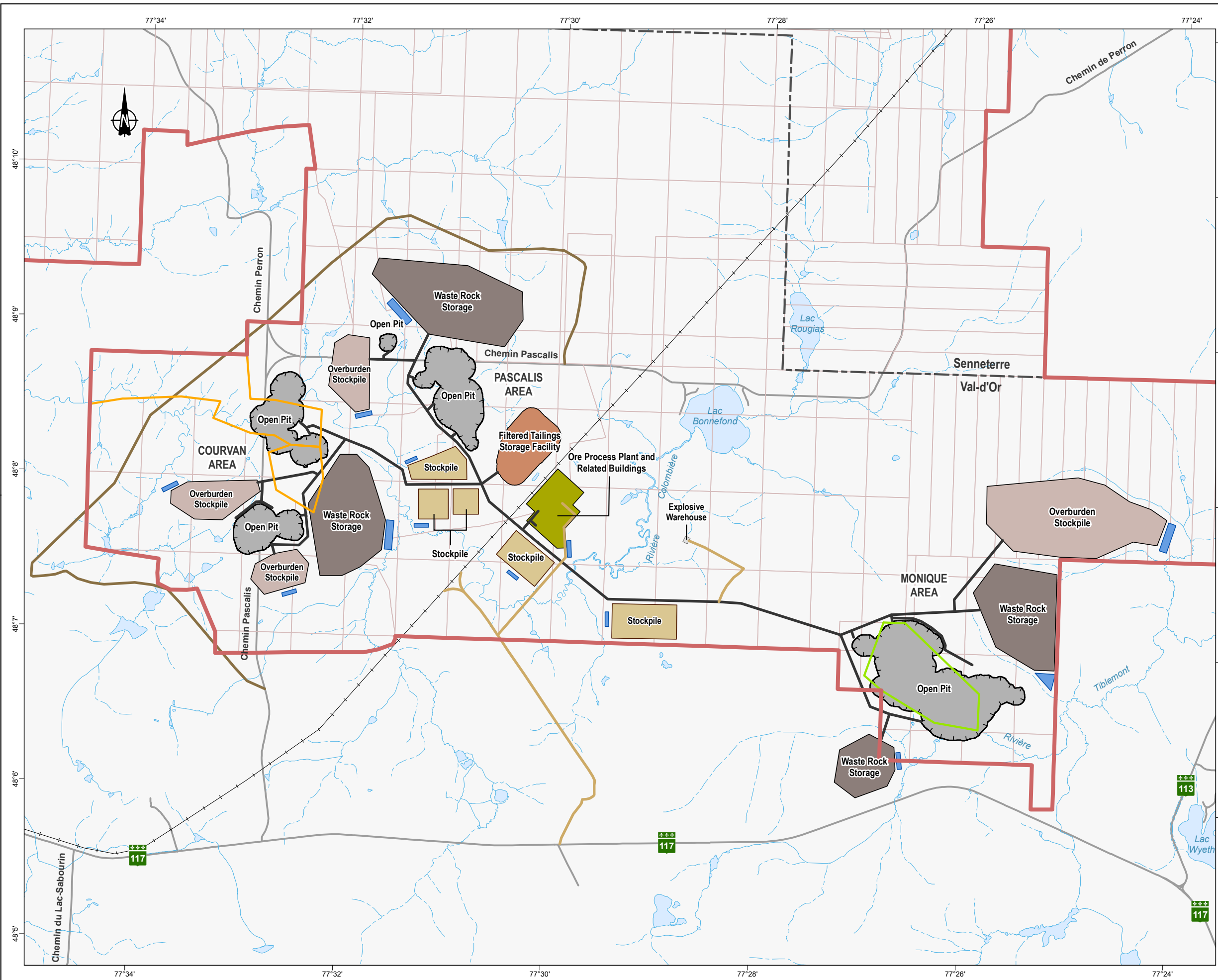
Under section 15 of the Impact Assessment Act, the promoter of a designated project provides the IAAC a detailed project description which must contain the information prescribed by regulations.

## 9. List of Activities, Infrastructures, Permanent or Temporary Structures and Physical Works

### 9.1 Project Description Summary

The Novador mining project consists of exploiting gold deposits located in the following three areas: Pascalis, Courvan and Monique. The operations will mainly be in pits (surface) but also underground to access resources at depth. A total of five pits will be developed as part of the project. Map 2 shows the location of these five projected pits (two pits in the Courvan area, two pits in the Pascalis area and one pit in the Monique area) as well as the main project infrastructures.





**PROJECT**

- Municipal boundary
- Mining property
- Mining title
- Mining concession
- Mining lease

**PROPOSED INFRASTRUCTURE**

- Open Pit
- Waste Rock Storage
- Overburden Stockpile
- Stockpile
- Filtered Tailings Storage Facility
- Collection Pond
- Explosive Warehouse
- Ore Process Plant and Related Buildings
- Haul Road
- Access Road
- Proposed Pascalis Road Deviation

**PROBE GOLD** **NOVADOR**  
MINING PROJECT

**PROJET NOVADOR**  
Detailed Project Description

**Location of Main Infrastructures of the Project**

**Sources :**  
CanVec, RNCan, 2017

Project : 22-1609  
File : 22-1609\_c2\_infrastructure\_Novador\_2024-03-20\_a.mxd

m 0 500 1 000 m  
Projection UTM, zone 18, NAD83 (CSRS)

**March 2024** **Map 2**

The main infrastructures required as part of the project are as follows:

- Access roads to reach the areas to be exploited and the ore processing plant;
- Haul roads for the transport of ore, overburden and waste rock;
- Electrical substation that will be connected to Hydro-Québec network;
- Passage above the CN railway track;
- Rail service for the delivery of consumable products and inputs;
- Warehouse for explosives<sup>5</sup>;
- Ore processing plant, including buildings for the crusher, domes for the ore, etc.;
- Buildings for the offices, garages, warehouse and employee locker room;
- Waste rock piles: one waste rock pile for the Courvan area, one waste rock pile for the Pascalis area and two waste rock pile for the Monique area (approximately 430 Mt<sup>6</sup>);
- Overburden stockpiles: two overburden stockpiles for the Courvan area, one overburden stockpile for the Pascalis area and one overburden stockpile for the Monique area (approximately 76 Mt);
- Temporary ore stockpiles near the treatment plant (approximately 16 Mt);
- Filtered tailings storage facility (approximately 24 Mt<sup>7</sup>); and
- Water management system around pits and infrastructure (ditches, diversion channels, collection ponds, water treatment plant, final effluents).

### Mining Methods

For the project, the use of conventional pit mining methods is planned, i.e. drilling, blasting, loading and transport. The underground workings extraction methods planes are those by long holes with longitudinal withdrawal for the mineralized zones of the Monique area and by mechanized cutting and backfilling for the Courvan and Pascalis areas.

### Schedule Operations

The mining schedule assumes 355 operating days per year with two 12-hour shifts per day. An allowance of 10 shutdown days is included to allow for adverse weather conditions and other operational downtimes. Underground operations are based on two 10-hour shifts per day.

### Ore Processing Plant

A single ore processing plant will be built on the mine site for the three areas of the Novador project. This ore processing plant will be located approximately in the center of these areas, as

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<sup>5</sup> No manufacturing of explosives on site is planned as part of the project.

<sup>6</sup> From this quantity, approximately 106 Mt of waste rock will be backfilled in the North part of the Monique pit.

<sup>7</sup> Slurry (approximately 54 Mt) will be stored in the main Pascalis pit at the end of the mining activities have been completed.

shown on Map 2. Additional information regarding the ore processing plant is presented in section 10 of this document.

### **Water Management**

Ditches and collection ponds will be built to collect runoff water that has been in contact with mining developments on the site (pits, waste rock piles, overburden piles, etc.). Diversion ditches will also be installed to divert clean water that has not been in contact with mining developments on the site and thus reduce the quantity of water to be treated at the plant. To date, it is planned to use modular treatment plants for water treatment on site.

### **Diversion Channels**

In order to allow the exploitation of pits in the Courvan and Monique areas, a segment with a length of approximately 1,000 m of the Colombière River as well as a segment with a length of approximately 650 m of the Tiblemont River will be deviated. To ensure the long-term maintenance of the function within the watershed, the diversion work will necessarily take into account the existing environmental characteristics of the segments to be diverted such as the type of substrate, the presence of ponds, the natural cover, etc.

Discussions will obviously take place with Fisheries and Oceans Canada in order to develop a concept that meets all the requirements.

### **Tailings Management**

In an effort to reduce the environmental footprint of the Novador project, Probe Gold plans to manage tailings using two different technologies. During the initial years of operation, the tailings will be filtered, transported by trucks, and stored in the filtered tailings storage facility. Subsequently, after mining activities have concluded at the main Pascalis pit, there are plans to backfill it with slurry tailings. These slurry tailings will be pumped and routed around the pit to be uniformly deposited within it.

### **Site Access and Circulation**

Main access to the mine site will be from the existing road located in the center of the property. This road is currently accessible from Route 117. However, it will be redeveloped to allow vehicles to travel safely.

Pascalis Road will be deviated somewhat from its current trajectory in order to allow the development of the planned pits in the Courvan and Pascalis areas and ensure the safety of land users during mining operations. The Colombière River bridge will be dismantled and water crossing structures will be built to ensure vehicle circulation.



### Worker Accommodation

Since the project site is located near urban centers, notably the city of Val-d'Or and the city of Senneterre, there will be no camp built on the site for worker accommodation during the construction or operation phase. Construction trailers will be present on the project site temporarily during the construction phase.

### Progressive Restoration

Progressive restoration activities will be carried out throughout mining operations. The openings left by the pits will be flooded or backfilled, the infrastructure will be dismantled, and the accumulation areas will be restored.

In fact, it is planned that the northern part of the pit of the Monique area would be backfilled with waste rock and that the main Pascalis pit would be backfilled with slurry tailings when the mining activities have been completed.

The work will be carried out in accordance with the rehabilitation and restoration plan which will have been submitted and approved in advance by the Ministry of Natural Resources and Forests of Quebec.

## 9.2 Site History

The Novador mining project site, located in the canton of Louvicourt, overlaps three sites of former mining operations, namely the Monique, Béliveau (also called Pascalis, Lucien Béliveau or LC Béliveau) and Bussière (also called Cournor or Courvan) mines. These three former mining operations are located in the three areas that constitute the Novador mining project, namely:

- Monique mine, in the area of the same name;
- Béliveau mine, in the Pascalis area; and
- Bussière mine, in the Courvan area.

In the Monique area, commercial production at the Monique mine began in October 2013 and the mine ceased operations shortly thereafter, in January 2015. During this period, more than 60,000 ounces of gold were produced by open-pit mining by the Mines Richmond company.

In the Pascalis area, the Lucien Béliveau underground mine was in operation from 1989 to 1993 by the Cambior company. There was production of approximately 45,000 ounces of gold per year over a four-year period, for a total of more than 170,000 ounces of gold produced.

In the Courvan area, the first reported exploration work was completed by prospectors Bussière and Massicotte in 1930. From 1932 to 1942, there was production of more than 40,000 ounces of gold at the Bussière underground mine. In 1942, a forest fire destroyed the mine's surface infrastructure and offices, forcing the permanent closure of the mine.

## 10. Estimation of the Maximum Production Capacity of the Project and Description of the Production Processes

Probe Gold expects to develop the deposits of the Novador project at an average production of 15,500 tonnes of ore per day (5.7 Mt/year) during phase 1 of the project, which will be increased to 19,200 tonnes per day (7.0 Mt /year) during phase 2, following the expansion of processing plant capacity during year 6 of production. An estimated total of 80.3 Mt of ore from the pits and underground mines will be sent to the processing plant with an average grade of 1.30 g/t Au, for a total mine life of approximately 14 years (including one year of pre-production).

The maximum ore throughput planned at the processing plant of the project would be 24,000 tpd. The ore processing plant would include two distinct phases. The first phase, initial construction, would include typical recovery stages for gold extraction while the second phase would increase the crushing capacity of the ore processing plant.

## 11. Anticipated Project Schedule

The provisional schedule for the main steps of the Novador mining project is presented in the following table.

**Table 2: Provisional Schedule of the Main Steps of the Project**

PERIOD	ACTIVITIES
Q4 2021	Filing of the preliminary economic assessment
Q1 2022	Launch of advanced technical studies for the development of the project
Q4 2023	Launch of environmental assessment process
Q1 2024	Filing of an update of the preliminary economic assessment
Q4 2025	Filing of the pre-feasibility study

PERIOD	ACTIVITIES
Q4 2025	Filing of the impact assessment
Q4 2026	Filing of the feasibility study
Q3 2027	Agency decision
Q4 2027	Beginning of the construction phase
Q4 2029	Beginning of the operation phase
2033-2043	Gradual restoration of the site and closure phase
2041	End of mining operations

## 12. Potential Alternatives

### Potential Alternatives to the Realization of the Project

As part of the development of the project, various components are subject to alternative study, including the following:

- Location of the ore processing plant
- Waste rock management
- Tailings management (type of tailings, location of the tailings management facility, etc.)
- Water management

Although to date, all of these studies have not yet been completed, the location of the various mining infrastructures that will be built as part of the Novador project have been the subject of numerous discussions, reflections and analyzes between the project team and its consultants. In addition, the results of the information and consultation meetings carried out to date with the stakeholders have made it possible to improve the basic criteria to be considered for the positioning of the main infrastructures of the project (ore processing plant, waste rock piles and tailings storage facility). In general, the main preliminary baseline criteria are:

- Stay within property boundaries as much as possible;
- Maintain a distance from the cottages located at Bonnefond Lake;
- Maintain Pascalis Road as a road access to Bonnefond Lake;
- Avoid wetlands as much as possible;
- Preserve water bodies and fish habitats;

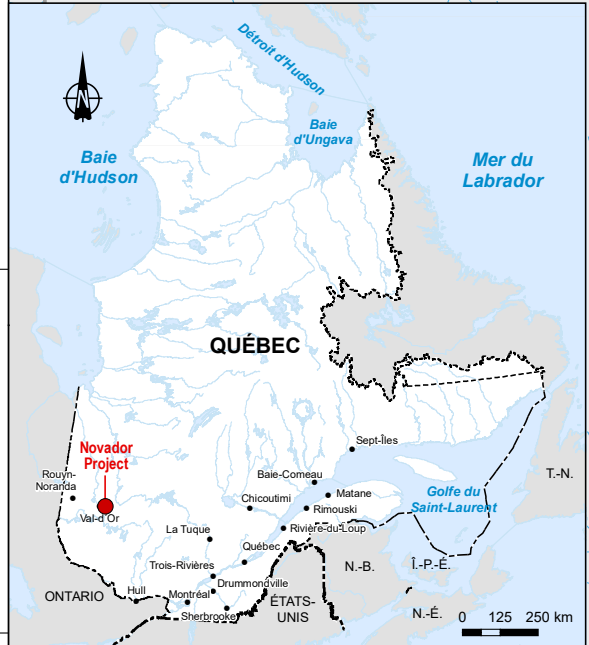
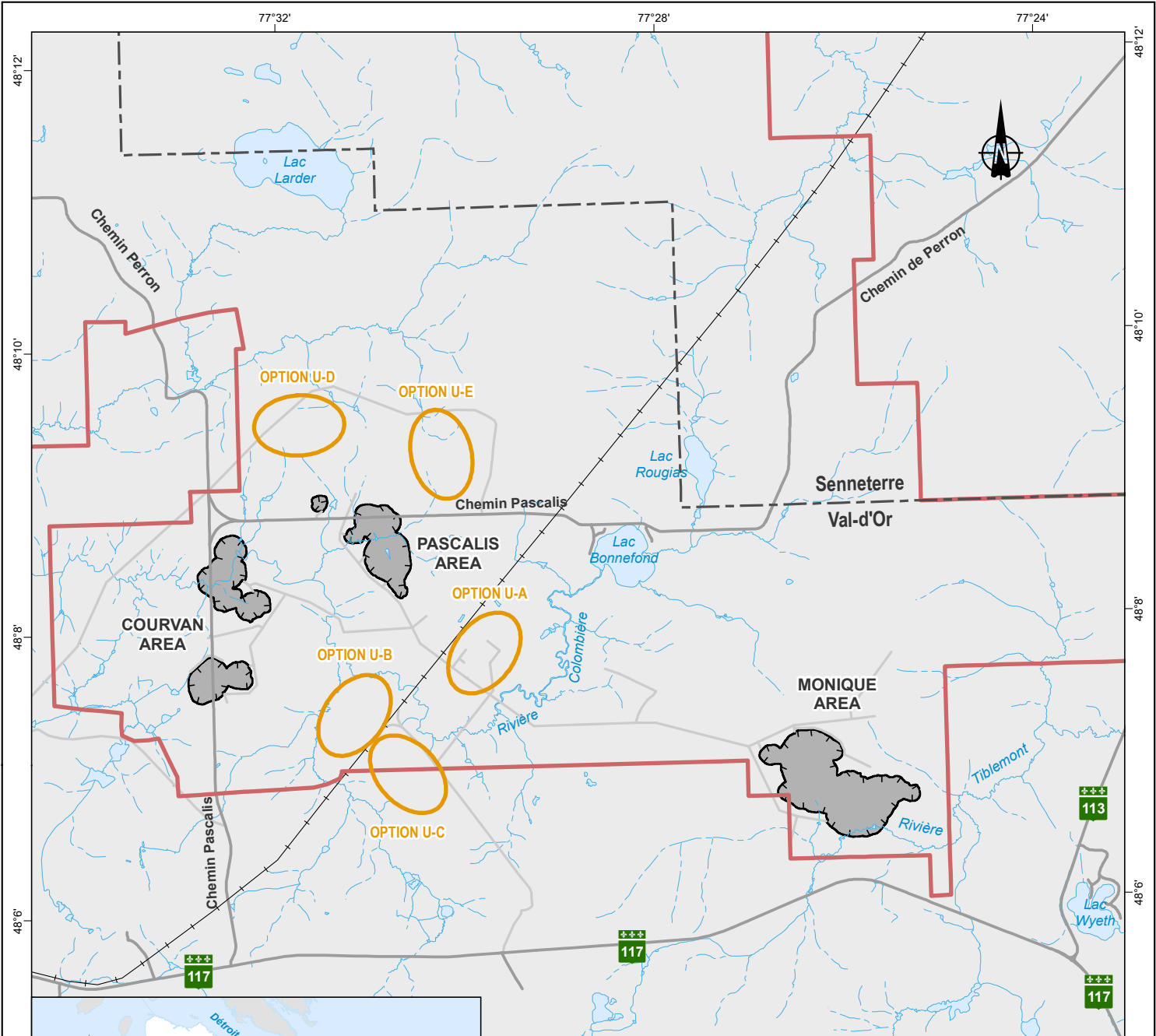
- Avoid eskers;
- Avoid areas where the risk of flooding is high;
- Reduce transport distances; and
- Reduce walking distances for employees (important in very cold temperatures).

Five location options were proposed for the construction of the ore processing plant: U-A to U-E<sup>8</sup> (see Map 3). A preliminary comparative assessment of these options was conducted, and the U-A option proved to be the preferred option for the construction of the ore processing plant according to its environmental, social, technical and economic benefits.

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<sup>8</sup> U: Ore treatment plant





**NOVADOR PROJECT**  
Detailed Project Description

**Proposed Location Options for the  
Ore Process Plant**

<ul style="list-style-type: none"> <li><span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> Municipal boundary</li> <li><span style="border: 2px solid red; width: 20px; height: 10px; display: inline-block;"></span> Mining property</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: gray; width: 20px; height: 10px; display: inline-block;"></span> Proposed pit</li> <li><span style="border: 2px solid orange; border-radius: 50%; width: 20px; height: 20px; display: inline-block;"></span> Proposed option</li> </ul>
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**Sources :**  
 CanVec, RNCan, 2017  
 BDGA, 1/5 000 000, MRNF Québec, 2012

Project : 22-1609  
 File : 22-1609\_c3\_dd\_option\_usine\_Novador\_2024-03-19\_a.mxd

0      1      2 km

Projection UTM, zone 18, NAD83 (CSRS)

**March 2024**

For each area of the Novador project, location options were identified to store the waste rock within a 10 km radius of the future ore processing plant site, in accordance with the Directive 019 on mining industry of Québec (MDDEP, 2012<sup>9</sup>). For the Monique area, three location options are proposed (MS-A to MS-C<sup>10</sup>) while for the Pascalis and Courvan areas, four location options are proposed respectively (PS-A to PS-D<sup>11</sup> and CS-A to CS-D<sup>12</sup>) (see Map 4). These location options were determined based on preliminary baseline and design criteria, including waste rock volumes to be stored and maximum stacking heights.

A preliminary comparative assessment of these options was carried out and location options MS-B, MS-C, PS-C and CS-B were found to be the preferable options for the development of waste rock piles due to the advantages which it presents from an environmental, social, technical and economic point of view.

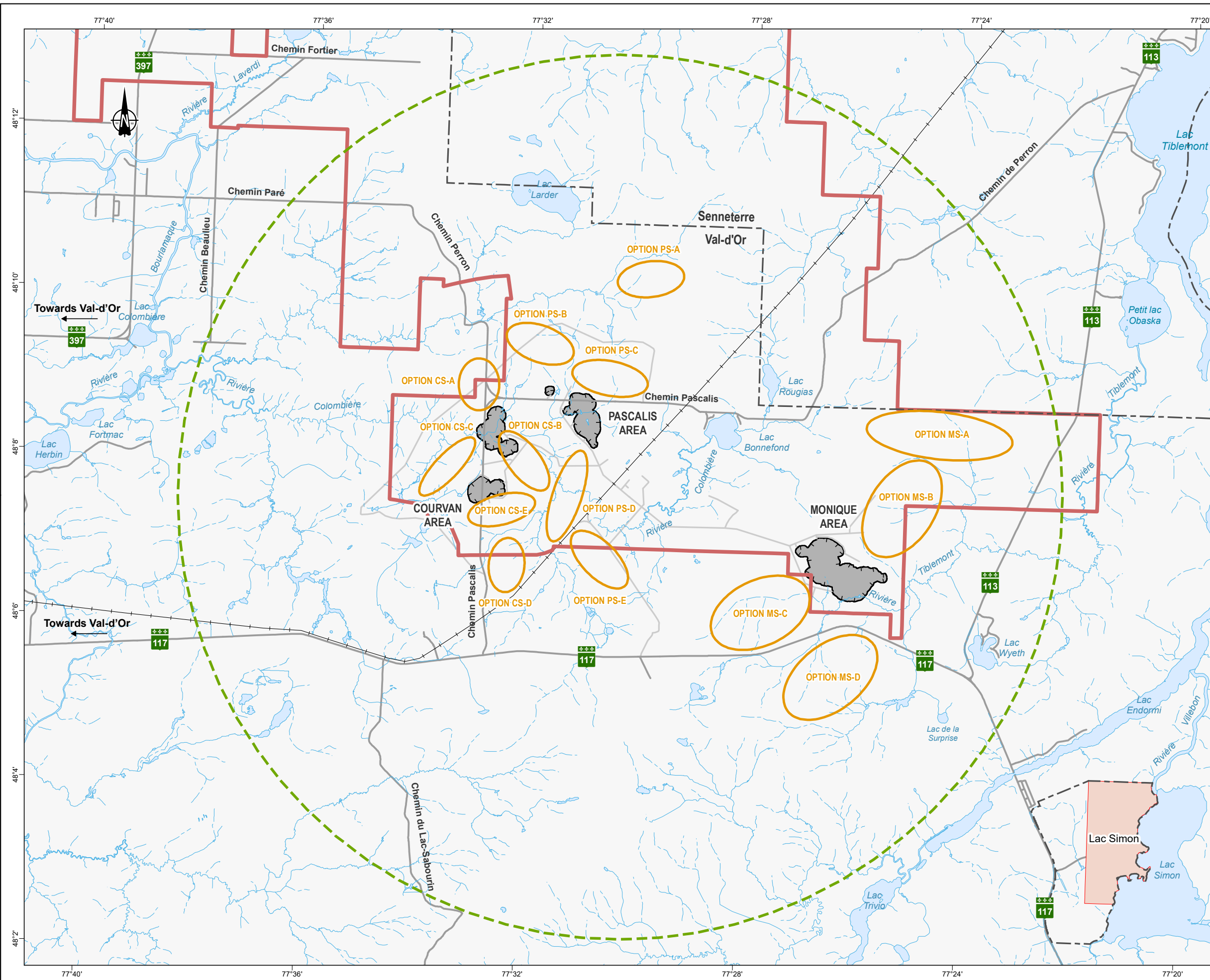
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<sup>9</sup> Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP). 2012. Directive 019 sur l'industrie minière. Mars 2012. 105 pages.

<sup>10</sup> MS: Monique – Waste rock

<sup>11</sup> PS: Pascalis – Waste rock

<sup>12</sup> CS: Courvan – Waste rock



**PROJECT**

- Municipal boundary
- Indigenous Community
- Mining property
- 10 km radius
- Proposed pit
- Proposed option

**PROBE GOLD** **NOVADOR MINING PROJECT**

**NOVADOR PROJECT**  
Detailed Project Description

**Proposed Location Options for Waste Rock Storage**

**Sources :**  
CanVec, RNCAN, 2017

Project : 22-1609  
File : 22-1609\_c4\_option\_sterile\_Novador\_2024-03-20\_a.mxd

m 0 500 1 000 1 500 2 000 m  
Projection UTM, zone 18, NAD83 (CSRS)

**March 2024** **Map 4**

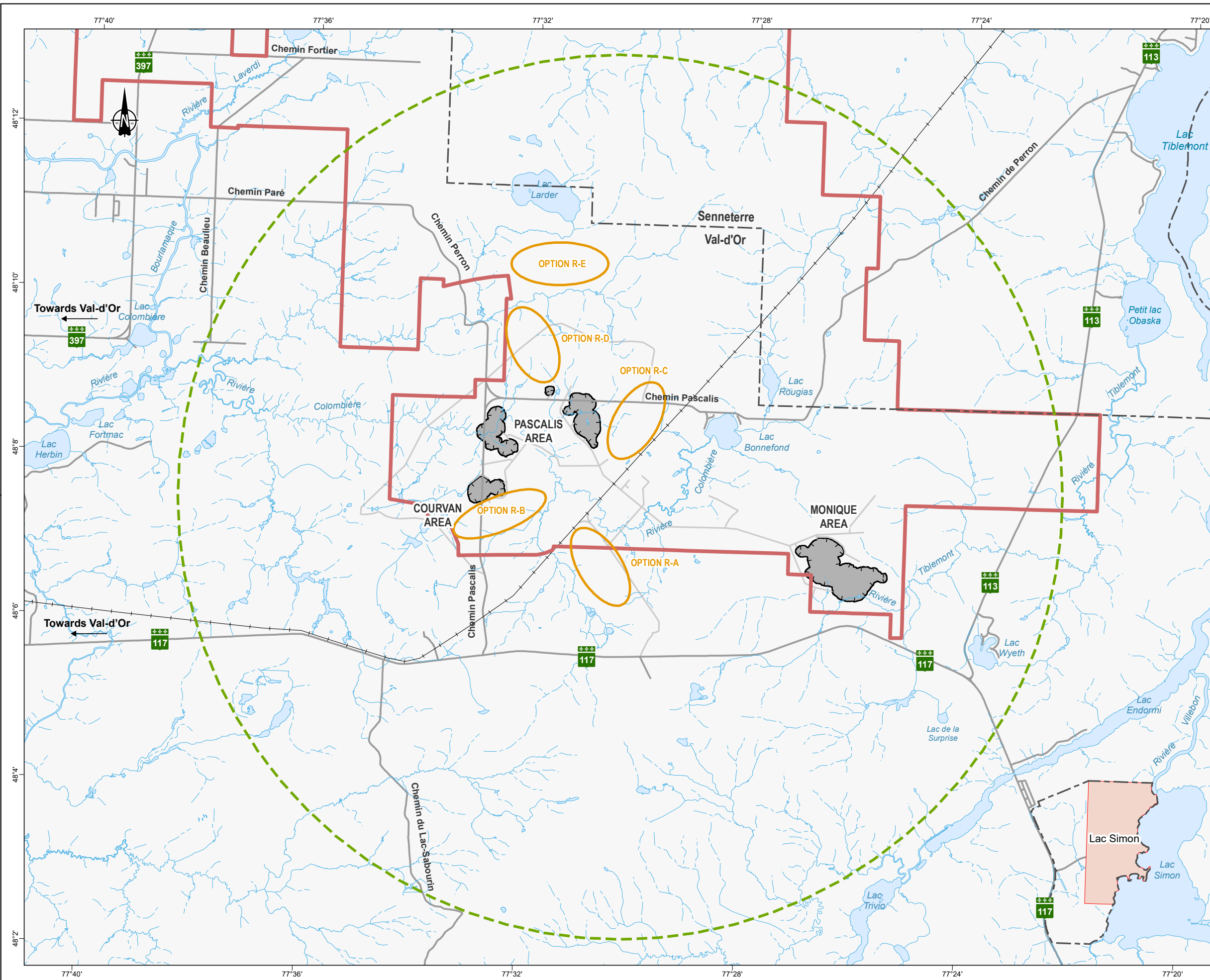
In addition, five location options have been identified for tailings disposal (R-A to R-E<sup>13</sup>) within a 10 km radius of the future ore processing plant site, in accordance with the Directive 019 on mining industry of Québec (MDDEP, 2012) (see Map 5). In addition to preliminary basic criteria, location options were determined based on design criteria, including volume of tailings to be stored, maximum stacking height, overall exterior slope, etc.

A preliminary comparative assessment of these options was carried out and the R-C location option was found to be the preferable option for the development of the filtered tailings storage facility due to the advantages it presents from an environmental, social, technical and economic.

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<sup>13</sup> R: Tailings





**PROJECT**

- Municipal boundary
- Indigenous Community
- Mining property
- 10 km radius
- Proposed pit
- Proposed option

**PROBE GOLD** **NOVADOR** MINING PROJECT

**NOVADOR PROJECT**  
Detailed Project Description

**Proposed Location Options for Tailings Storage**

**Sources :**  
CanVec, RNCAN, 2017

Project : 22-1609  
File : 22-1609\_c5\_option\_residuo\_Novador\_2024-03-20\_a.mxd

m 0 500 1 000 1 500 2 000 m  
Projection UTM, zone 18, NAD83 (CSRS)

**March 2024** **Map 5**

### Potential Alternatives to the Project

The only alternative to the project is not to carry out the Novador mining project. There is no other way to extract the ore present in the subsoil than by developing a mine. In this context, there is no potential alternative solution to the project.

### 13. Description of the Proposed Location of the Project

The Novador mining project is located in the Abitibi-Témiscamingue administrative region, approximately 25 km east of downtown Val-d'Or and approximately 8 km northwest of the Anishnabe community of Lac Simon, on the ancestral Anishnabe territory. The other two indigenous communities closest to the project site are the community of Pikogan about 70 km northwest and the community of Kitcisakik about 75 km to the southeast.

The geographic coordinates of the center of the mining site are as follows:

- Latitude: 48,1308, Longitude: -77,5001

The geographic coordinates of the areas of the Novador mining project and its main infrastructures are as follows:

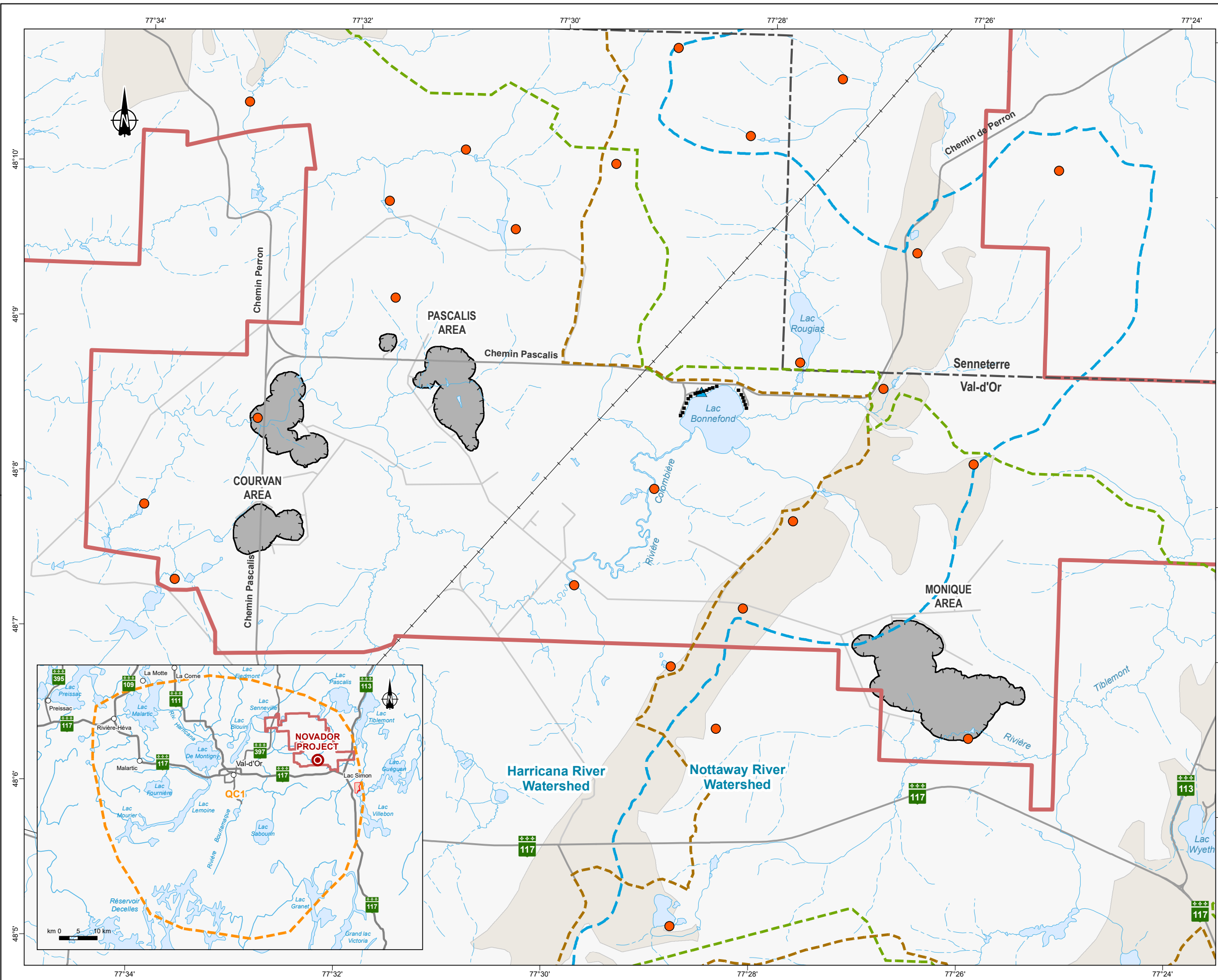
- Monique area: Latitude: 48,1127, Longitude: -77,4383
- Pascalis area: Latitude: 48,1436, Longitude: -77,5164
- Courvan area: Latitude: 48,1328, Longitude: -77,5437
- Monique pit: Latitude: 48,1127, Longitude: -77,4383
- Main Pascalis pit: Latitude: 48,1436, Longitude: -77,5164
- Secondary Pascalis pit: Latitude: 48,1482, Longitude: -77,5276
- Courvan North pit: Latitude: 48,1395, Longitude: -77,5448
- Courvan South pit: Latitude: 48,1281, Longitude: -77,5462
- Filtered tailings storage facility: Latitude: 48,1376, Longitude: -77,5049
- Ore processing plant: Latitude: 48,1311, Longitude: -77,4999
- Waste rock North pile – Monique area: Latitude: 48,1212, Longitude: -77,4243
- Waste rock South pile – Monique area: Latitude: 48,1041, Longitude: -77,4488
- Waste rock pile – Pascalis area: Latitude: 48,1530, Longitude: -77,5177
- Waste rock pile – Courvan area: Latitude: 48,1293, Longitude: -77,5333
- Overburden stockpile – Monique area: Latitude: 48,1314, Longitude: -77,4158
- Overburden stockpile – Pascalis area: Latitude: 48,1449, Longitude: -77,5335
- Overburden North stockpile – Courvan area: Latitude: 48,1309, Longitude: -77,5548
- Overburden South stockpile – Courvan area: Latitude: 48,1232, Longitude: -77,5438

The project is composed of 422 map-designated claims (CDC), two mining concessions (CM) and one mining lease (BM) covering a total area of 16,909.41 hectares.

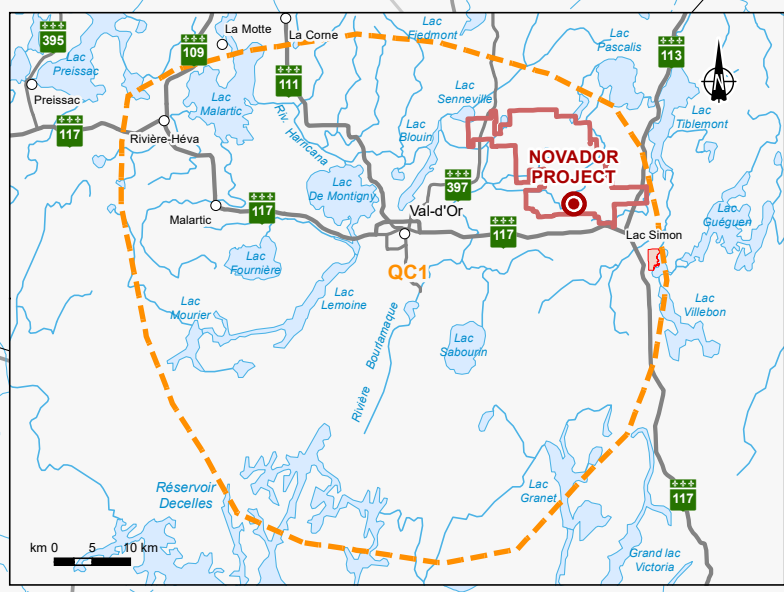
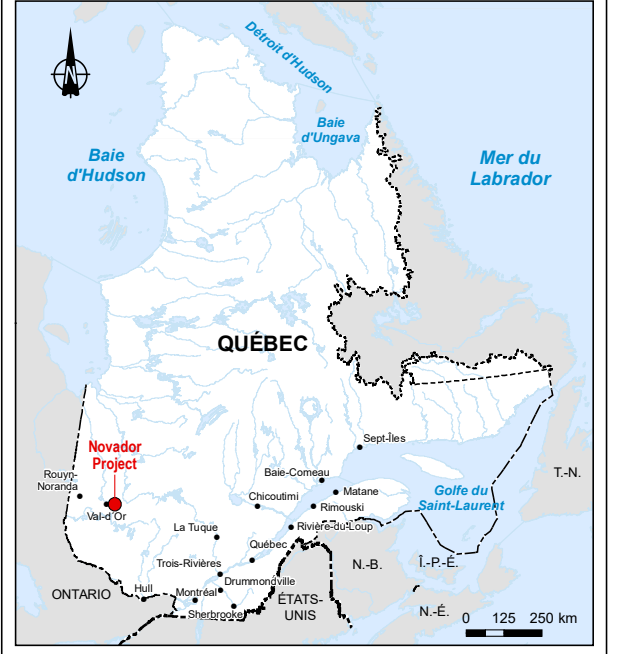
No federal land is located near the Novador mining project site.

Map 6 shows the location of cottages (resort leases) and hunting camps (temporary shelter leases) located on or near the Novador mining project site.





- PROJECT**
- Municipal boundary
  - Mining property
  - Proposed pit
- BIOPHYSICAL AND SOCIAL ENVIRONMENTS**
- Main Watershed Boundary
  - Esker
  - Resort Lease
  - Temporary Shelter Lease
  - Railway
  - Snowmobile Trail
  - ATV Trail
  - Resort Cottage (Lac Bonnefond)
  - Boreal Caribou Ranges (QC1)



**PROBE GOLD** **NOVADOR MINING PROJECT**

**NOVADOR PROJECT**  
Detailed Project Description


**Elements of the Biophysical and Social Environments**

**Sources :**  
CanVec, RNCAN, 2017

Project : 22-1609  
File : 22-1609\_c6\_milbiohum\_Novador\_2024-03-19\_a.mxd

m 0 500 1 000 m  
Projection UTM, zone 18, NAD83 (CSRS)

**March 2024** **Map 6**





## 14. Brief Description of the Physical and Biological Environments

Located in the Abitibi Plain ecological region, the project site is characterized by generally flat topographic relief. In the Pascalis and Courvan areas, the altitude varies from 315 to 355 m above sea level and from 323 to 337 m in the Monique area. Two eskers are present on the site, to the west and east of the Monique area. One of these eskers is currently being operated by a contractor to produce aggregate materials.

The Colombière River and some of its tributaries receives drainage water from the Pascalis et Courvan areas. In these areas, surface waters flow east to west through a network of wetlands and small streams to Lac de la Colombière. The Tiblemont River receives water from the Monique area. All the ponds present in the Monique area are due to the presence of beaver dams.

The surface water in the Pascalis and Courvan areas is clear, with a neutral pH, low in nutrients and slightly mineralized. Surface water in the Monique area is characterized by a slightly acidic pH, as the water courses in this area are supplied by a peat bog.

In general, groundwater is predominantly of the calcium-magnesian bicarbonate type. Groundwater is poorly mineralized, has a slightly alkaline pH, and is characterized by exceedances of the resurgence water criteria for petroleum hydrocarbons, copper, and mercury.

The project is in the fir-white birch domain, West sub-domain. The fir forest with balsam fir and white spruce mixed with white birch constitutes the characteristic forest stand of this sub-domain. Wetlands occupy a large part of the project site, the main ones being peat bogs and swamps. There are smaller areas covered by deciduous, mixed, and coniferous forest stands.

During the aquatic species program in 2022, thirteen species of fish were captured in the Courvan and Pascalis areas and nine in the Monique area. The brook stickleback, the Allegheny pearl dace and the lake chub are the most common species observed in the majority of the watercourses.

The species of reptiles and amphibians listed during inventories carried out in the past in the Monique area are the spring peeper, the green frog, and the mink frog. The other species potentially present on the project site are the Blue-spotted Salamander, the Northern Two-lined Salamander, the American Toad, the American bullfrog, the wood frog, the northern leopard frog, the painted turtle, the snapping turtle, the wood turtle and the common gartersnake.

Five large wildlife species potentially occur within the project site, namely woodland caribou, white-tailed deer, moose, gray wolf, and black bear. It should be noted that the woodland caribou have federal and provincial conservation status. Small animal species potentially present on the project site are weasel, beaver, coyote, red squirrel, otter, Canada lynx, bobcat, American marten, skunk, fisher, muskrat, raccoon, red fox, and mink.

The species of micromammals likely to frequent the project site are the short-tailed shrew, the artic shrew, the cinereus shrew, the smoky shrew, the American water shrew, the Eurasian pygmy shrew, the star-nosed mole, the woodland jumping mouse, the meadow jumping mouse, the deer mouse, the Gapper's red-backed vole, the rock vole, the common vole, the southern bog lemming, and the heather vole.

The bat species potentially present on the project site are the little brown bat, the northern myotis, the big brown bat, the red bat, the silver-haired bat, and the hoary bat.

During the 2022 field surveys, the most observed songbirds were the White-throated sparrow, the Nashville warbler, the ruby-crowned kinglet, the hermit thrush, the red-eyed Vireo, and the Swainson's thrush. Seven species of songbirds with conservation status were observed, namely the common nighthawk, the evening grosbeak, the bank swallow, the barn swallow, the olive-sided flycatcher, the rusty blackbird, and the Canada warbler. Among waterfowl, the most abundant species were the red-breasted merganser, the lesser scaup or the greater scaup, the ring-necked duck and the common goldeneye.

## 15. Brief Description of the Health, Social and Economic Context

Among the demographic challenges identified as part of the portrait of the health of the population of the regional county municipality (RCM) of La Vallée-de-l'Or, we note a modest population increase, population retention, an aging demographic, and a rise in life expectancy.

Some highlights from the 2015 First Nations Regional Health Survey (RHS) are:

- An aging of the population within the communities.
- Half of the adults are in paid employment.
- Half of the children aged 6 to 11 have attended an Aboriginal Head Start program.
- About one in four children lives in overcrowded housing.
- More than a third of people aged 12 and over smoke.
- Most of the population does not consume fruits, vegetables, cereal products, meat or its substitutes and milk or its substitutes on a daily basis.
- The prevalence of most chronic health problems has remained stable since the 2002 RHS, except for obesity, which affects a growing proportion of the population.
- About three out of five children, one out of two teenagers and four out of five adults are overweight or obese.

The following table presents socio-demographic data for 2021 for the city of Val-d'Or, the community of Lac Simon, the community of Pikogan and the community of Kitcisakik.

**Table 3: Socio-Demographic Data for 2021 for Val-d'Or, Lac Simon, Pikogan and Kitcisakik**

Socio-Demographic Data	City of Val-d'Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
Population	32,752	1,285	540	257
Population density per km <sup>2</sup>	9.3	409.2	537.4	170.2
Age group 0-14 (total)	5,625	460	130	100
<i>Age groupe 0-14 (men)</i>	2,895	230	55	40
<i>Age group 0-14 (women)</i>	2,730	235	75	60
Age group 15-64 (total)	20,635	785	355	150
<i>Age group 15-64 (men)</i>	10,615	390	160	80
<i>Age group 15-64 (women)</i>	10,025	395	190	75
Age group 65 and over (total)	6,490	40	50	5
<i>Age group 65 and over (men)</i>	3,110	15	25	5
<i>Age group 65 and over (women)</i>	3,385	25	25	0
Average age (total)	42.2	27.2	33.7	28.2
<i>Average age (men)</i>	41.7	26.3	33.6	31.6
<i>Average age (women)</i>	43.1	28.1	33.8	25.2

Socio-Demographic Data	City of Val-d'Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
Number of persons in private households (total)	32,145	1,275	530	255
<i>Number of persons in private households (men)</i>	<i>16,375</i>	<i>630</i>	<i>240</i>	<i>115</i>
<i>Number of persons in private households (women)</i>	<i>15,770</i>	<i>645</i>	<i>290</i>	<i>140</i>
Average household size	2.1	3.7	3.4	3.2
Number of private households	15,035	340	160	80
Average size of census family	2.8	3.6	3.2	3.4
Average number of children in census families with children	1.8	2.3	2.0	2.3
Indigenous identity	1 670	1 275	500	255
Non-Indigenous identity	30 470	0	30	0
Immigrant status	32 145	n.a.	n.a.	n.a.
<i>Non-immigrants</i>	<i>31 150</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Immigrants</i>	<i>735</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
No certificate, diploma or degree*	25.2%	62.0%	38.8%	77.4%



Socio-Demographic Data	City of Val-d'Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
High (secondary) school diploma or equivalency certificate*	21.6%	13.5%	10.0%	6.5%
Non-apprenticeship trades certificate or diploma*	16.4%	13.5%	20.0%	16.1%
Apprenticeship certificate*	5.2%	1.8%	6.3%	0.0%
college, CEGEP or other non-university certificate or diploma*	14.6%	6.1%	11.3%	0.0%
University certificate or diploma below bachelor level*	2.5%	1.8%	7.5 %	6.5%
Bachelor's degree or higher*	14.5%	1.2%	6.3%	0.0%

\*: Population aged 15 and over

n.a.: Not applicable

Note: The data presented comes from Statistics Canada and some totals do not match with the summed values. No data manipulation has been done to reflect the results of the 2021 population census.

A significant part of the economy of the RMC La-Vallée-de-l'Or is based on the exploitation of natural resources, manufacturing activities and the service sector. It should be noted that in the mining sector alone, the RMC of La Vallée-de-l'Or accounts for 46% of establishments and 51% of regional mining jobs.

The following table presents economic data for 2020-2021 for the city of Val-d'Or, the community of Lac Simon, the community of Pikogan and the community of Kitcisakik.

**Table 4: Economic Data for Val-d’Or, Lac Simon, Pikogan and Kitcisakik**

Economic Data	City of Val-d’Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
Median total income in 2020 (total)	\$44,400	\$29,000	\$34,800	\$24,200
<i>Median total income in 2020 (men)</i>	<i>\$54,400</i>	<i>\$23,600</i>	<i>\$34,000</i>	<i>\$18,800</i>
<i>Median total income in 2020 (women)</i>	<i>\$36,800</i>	<i>\$32,000</i>	<i>\$36,800</i>	<i>\$38,400</i>
Number of employment insurance benefits recipients in 2020 (total)	3,195	150	70	30
<i>Number of employment insurance benefits recipients in 2020 (men)</i>	<i>1,595</i>	<i>70</i>	<i>45</i>	<i>10</i>
<i>Number of employment insurance benefits recipients in 2020 (women)</i>	<i>1,600</i>	<i>80</i>	<i>30</i>	<i>20</i>
Median total income of household in 2020	\$75,500	\$57,200	\$86,000	\$48,400
Average total income of household in 2020	\$98,900	\$66,000	\$98,000	\$62,000
Participation rate in 2021 (total)	66.2%	35.6%	56.3%	64.5%

Economic Data	City of Val-d'Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
<i>Participation rate in 2021 (men)</i>	69.3%	40.0%	59.5%	68.8%
<i>Participation rate in 2021 (women)</i>	62.8%	31.3%	50.0%	60.0%
Employment rate in 2021 (total)	63.2%	30.7%	46.3%	54.8%
<i>Employment rate in 2021 (men)</i>	66.0%	35.0%	45.9%	56.3%
<i>Employment rate in 2021 (women)</i>	60.2%	27.7%	43.2%	53.3%
Unemployment in 2021 (total)	4.5%	12.1%	15.6%	15.0%
<i>Unemployment in 2021 (men)</i>	4.8%	15.6%	18.2%	18.2%
<i>Unemployment in 2021 (women)</i>	4.1%	11.5%	13.6%	0.0%
Labour force aged 15 years and over in 2021 (total)	17,545	290	225	100
<i>Labour force aged 15 years and over in 2021 (men)</i>	9,350	160	110	55
<i>Labour force aged 15 years and over in 2021 (women)</i>	8,200	130	115	45
Number of employees in 2021 (total)	15,900	275	210	100

Economic Data	City of Val-d'Or	Community of Lac Simon	Community of Pikogan	Community of Kitcisakik
<i>Number of employees in 2021 (men)</i>	8,435	150	100	55
<i>Number of employees in 2021 (women)</i>	7,465	120	105	45
Number of self-employed in 2021 (total)	1,420	0	0	0
<i>Number of self-employed in 2021 (men)</i>	805	0	0	0
<i>Number of self-employed in 2021 (women)</i>	620	0	0	0

Note: The data presented comes from Statistics Canada and some totals do not match with the summed values. No data manipulation has been done to reflect the results of the 2021 population census.

## 16. Financial Support

As part of the Novador mining project, no financial support will be provided by a federal authority.

## 17. Federal Lands

As part of the Novador mining project, no federal lands will be used.

## 18. Jurisdiction with Respect to an Assessment of Environmental Effects

On a preliminary basis, the following federal authorities have authority and responsibilities with respect to the assessment of the environmental effects of the Novador mining project:

- Impact Assessment Agency of Canada



- Natural Resources Canada
- Fisheries and Oceans Canada
- Environment and Climate Change Canada

On a preliminary basis, the following provincial authorities have responsibilities with respect to the assessment of the environmental effects of the Novador mining project:

- Ministère de l’Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs of Québec
- Ministère des Ressources naturelles et des Forêts of Québec

Other jurisdictions also have authority and responsibilities for assessing the environmental effects of the project, including municipal authorities and public safety authorities.

## 19. Changes to the Environmental Components

The completion of the Novador mining project could lead to changes in the components of the environment that fall under the federal government, in particular fish and their habitat as well as migratory birds. Mitigation measures will be developed and presented as part of the impact study to reduce the impacts of the project on these environmental components.

The definition of aquatic species within the meaning of subsection 2(1) of the *Species at Risk Act* does not correspond to aquatic species at risk, but to marine plants as defined in section 47 of the *Fisheries Act* (benthic and detached algae, marine flowering plants, brown algae, red algae, green algae and phytoplankton). The project is therefore not located in an environment where marine plants are present.

The following table presents the main potential changes to the components of the environment. This information will be presented in more detail as part of the impact study.

**Table 5: Potential Changes to Environmental Components**

ENVIRONMENTAL COMPONENTS	POTENTIAL CHANGES
<b>Fish and their habitat</b>	Habitat destruction Reduced reproductive success Decline in fish populations
<b>Migratory birds</b>	Habitat destruction Reduced reproductive success

ENVIRONMENTAL COMPONENTS	POTENTIAL CHANGES
	Decline in migratory bird populations

## 20. Changes to the Environment that may Occur on Federal Lands, in a Province other than the Province in which the Project is Proposed or Outside Canada

No changes to the environment on federal lands, in any province or outside Canada are anticipated as a result of the Novador mining project.

## 21. Description of Impacts on Indigenous Peoples

Impacts on Indigenous peoples could be caused by project activities, particularly on natural and cultural heritage as well as on the current use of lands and resources for traditional purposes. Potential changes in the health, social or economic conditions of Indigenous peoples could also occur with the realization of the project. Mitigation measures will be developed and presented as part of the impact study to reduce the impacts of the project on these components.

The following table outlines the main potential impacts on Indigenous peoples. This information will be presented in more detail as part of the impact study.

**Table 6: Potential Changes on Indigenous Peoples**

COMPONENTS	POTENTIAL CHANGES
<b>Natural and cultural heritage</b>	<p>Modification of the current landscape (disruption of existing natural elements or addition of anthropogenic elements)</p> <p>Disturbance or damage to elements of cultural heritage (for example, unearthing of archaeological remains)</p>
<b>Current use of lands and resources for traditional purposes</b>	<p>Loss of territory for the practice of traditional activities</p> <p>Change in practice habits of traditional activities</p>

## 22. Changes to Health, Social or Economic Conditions of Indigenous Peoples in Canada

The following table presents the potential changes that the project could cause to the health, social and economic conditions of Indigenous peoples. This information will be presented in more detail as part of the impact study.

**Table 7: Potential Changes on Health, Social and Economic Conditions of Indigenous Peoples**

CONDITIONS	POTENTIAL CHANGES
<b>Health conditions</b>	<ul style="list-style-type: none"> <li>Potential effects on physical health</li> <li>Potential effects on psychological health</li> </ul>
<b>Social conditions</b>	<ul style="list-style-type: none"> <li>Potential change in the practice of traditional activities on the territory</li> <li>Change in current quality of life</li> <li>Risk of potential tension between natives and non-natives</li> </ul>
<b>Economic conditions</b>	<ul style="list-style-type: none"> <li>Local and regional economic benefits</li> <li>Business opportunity for local and regional companies</li> <li>Creation or maintenance of jobs</li> </ul>

## 23. Estimation of Greenhouse Gas Emissions

It is difficult to estimate the GHG emissions generated during the construction phase of the Novador mining project since it is still under development. Based on currently available project data, direct and indirect emissions generated during the construction phase are estimated at between 35,000 and 45,000 tCO<sub>2Eq</sub>.

During the operation phase, direct emissions associated with fuel consumption (diesel) could be in the order of approximately 97,000 tCO<sub>2Eq</sub> annually while indirect emissions associated with electricity consumption would be estimated at approximately 320 tCO<sub>2Eq</sub> annually.

Concrete and effective means will be put forward by Probe Gold during the next steps of the project development to reduce the GHG emissions.

## 24. List of Types of Wastes and Emissions

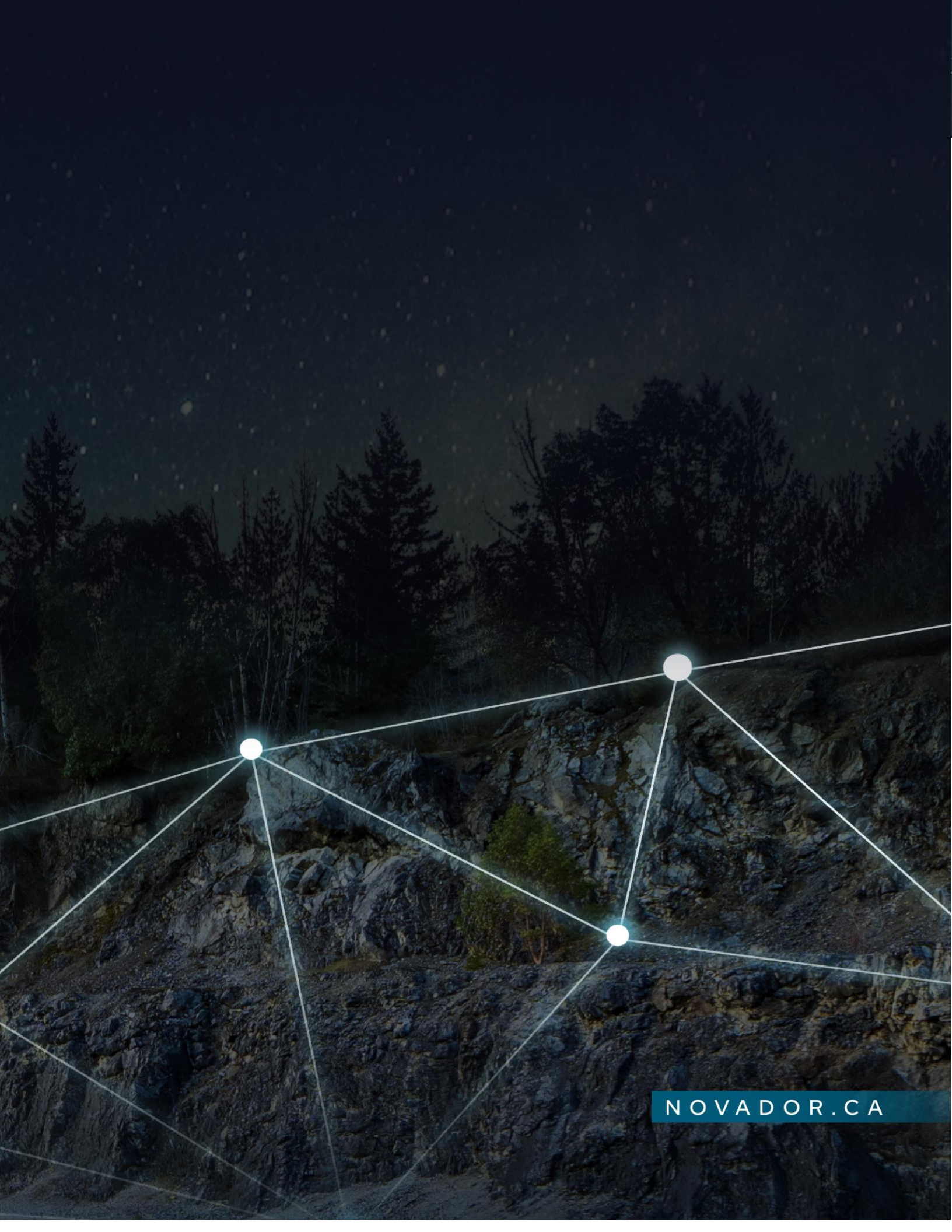
The project will generate different types of wastes and emissions. The components of the environment potentially affected are air, surface water and groundwater, and soil.

In general, air quality could be affected by dust emitted during construction and operation activities. The main atmospheric contaminants emitted will be CO<sub>2</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub> and metals. Atmospheric quality standards and criteria will be respected to ensure that there will be no effect on the health of local populations.

Surface water quality could be affected by site preparation and construction work, notably by increasing suspended matter in runoff water. In addition, surface water quality could also be affected in an event of accidental spills of petroleum and chemical products. During the operation phase, surface water quality could be impacted by the discharge of the final effluents. The discharge standards related to the *Metal and Diamond Mining Effluent Regulations* will be respected. Groundwater quality could be affected by exfiltration from waste rock piles and the tailings management facility. It should be noted that geochemical characterizations have not demonstrated acid mine drainage or metal leaching problems to date.

Finally, soil quality could be affected by dust that will eventually fall to the ground or during accidental spills of petroleum and chemical products. Contaminated soils will be managed in accordance with current regulations.





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