

AGNICO EAGLE MINES LIMITED

AKASABA WEST PROJECT

PROJECT DESCRIPTION AND NOTICE
SUMMARY

OCTOBER 2014



AGNICO EAGLE



AKASABA WEST PROJECT

PROJECT DESCRIPTION AND NOTICE | SUMMARY

Agnico Eagle Mines Limited

Summary

Project No.: 141-14776-00
Date: October 2014

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1 GENERAL INFORMATION

This document constitutes the Project Description required by the Canadian Environmental Assessment Agency (the Agency) under the *Prescribed Information for the Description of a Designated Project Regulations* (SOR/2012-148), as well as the Project Notice pursuant to the environmental impact assessment and review procedure of the Quebec Department of Sustainable Development, Environment and the Fight against Climate Change (MDDELCC) under section 31.2 of the *Environment Quality Act*.

1.1 TITLE OF THE DESIGNATED PROJECT

“Akasaba West”

The Akasaba West Project is a project to mine copper and gold on a property that is 100% owned by Agnico Eagle Mines Ltd. (AEM).

1.2 PROPONENT AND NATURE OF THE PROJECT

AEM plans to develop an open-pit mine on the territory of the municipality of Val d’Or to mine copper and gold ore at a rate of approximately 4,000 t/day. Essentially, this project will provide a supply of ore to the AEM Goldex mine concentrator in Val d’Or, which is currently in operation.

As well as extending the life of the Goldex mine, the Akasaba West Project, like Goldex, will contribute to restoring the Manitou mine site, an old tailings facility that is a major environmental concern.

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Project Lead: Josée Marcoux, Geographer, M.Sc.

1.4 APPLICABLE LEGAL AND REGULATORY FRAMEWORK

In Canada, under section 16(c) of the *Regulations Designating Physical Activities* (SOR/2012-147), which encompasses the construction of a new gold mine with an ore production capacity of 600 t/day or more, the Akasaba West project is subject to a screening pursuant to the *Canadian Environmental Assessment Act* (CEAA) (S.C. 2012, c. 19, s. 52). The Agency will be the responsible authority for the implementation of the federal environmental assessment process. The present document constitutes the project description pursuant to section 8(1) of the CEAA and the *Prescribed Information for the Description of a Designated Project Regulations* (SOR/2012-148). The project is subject to public consultations and a screening. At the end of this process, the Agency will decide whether a comprehensive environmental assessment of the project is required.

To date, the Akasaba West's mining infrastructure does not directly encroach on any fish habitat. However, the likely construction of the hauling road between the pit and the Manitou site will involve the crossing of several watercourses, some of which are home to brook stickleback. In the absence of recognized fish habitat, no authorization would be required from Fisheries and Oceans Canada (DFO) under section 35(2) of the *Fisheries Act*.

An explosives factory licence may be required from Natural Resources Canada under the *Explosives Act*, depending on the explosives management method that is recommended, i.e., either on site or at an existing off site facility. A permit from Transport Canada under the *Transportation of Dangerous Goods Regulations* and a NAV Canada permit may also be required. Lastly, the Akasaba West project will be subject to the *Canadian Environmental Protection Act*, to reporting under the National Pollutant Release Inventory (NPRI), to the *Species at Risk Act*, to the *Migratory Birds Convention Act, 1994*, to the *Metal Mining Effluent Regulations*, to the *Environmental Emergency Regulations* and to an authorization for the storage and handling of chemicals.

At this time, it is not known whether authorizations relating to a water lot will be required.

In Quebec, Division IV.1 of the *Environment Quality Act* (RSQ, c. Q-2) requires that all persons or groups follow the environmental impact assessment and review procedure before undertaking any project that falls under the *Regulation respecting environmental impact assessment and review* (CQLR, c. Q-2, r. 23). The Akasaba West project is subject to this procedure due to the planned production of over 2,000 metric tons per day. The present document also constitutes the Project Notice describing the general nature of the project and initiating the Quebec environmental assessment procedure pursuant to section 31.2 of the *Environment Quality Act*.

1.5 FEDERAL INVOLVEMENT

Agnico Eagle's Akasaba West project will not receive any federal financial support.

No relevant regional studies of environmental effects from other projects are available and no federal lands will be used for the project.

1.6 PROJECT OBJECTIVES AND RATIONALE

The Akasaba West Project consists of the operation of an open-pit mine within the municipal limits of Val d'Or. The primary goal of this project is to contribute to the supply of ore for the existing processing plant of the Goldex mine, which is not operating at full capacity.

Mining the new deposit will also contribute to the restoration of the old Manitou tailings management facility, where Goldex's tailings are currently deposited.

1.7 PROJECT LOCATION

The UTM NAD83 coordinates of the centre of the planned pit are:

- Latitude: 48, 043099° N
- Longitude: 77, 580744° W

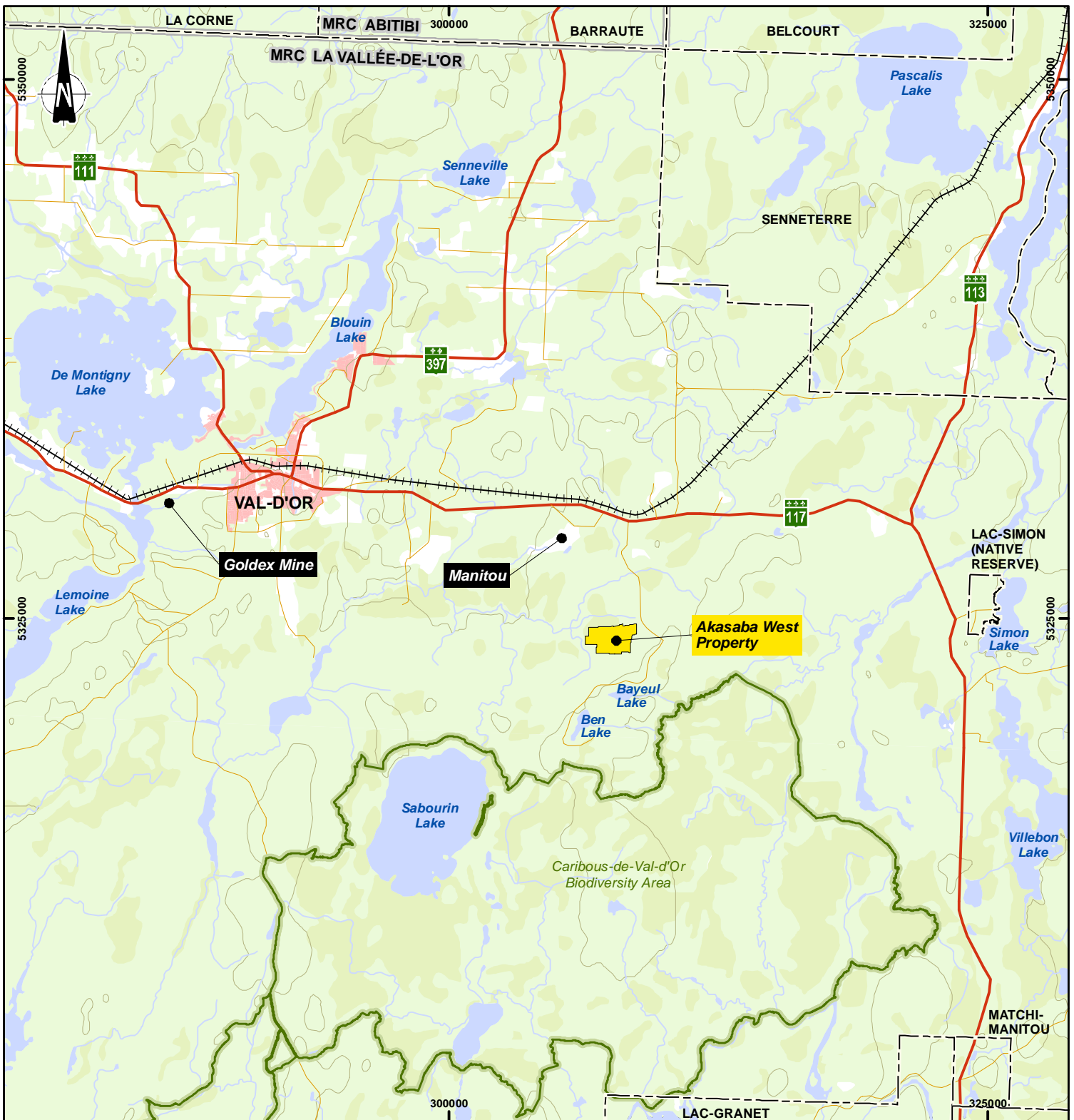
The Akasaba West Project is located within the municipal limits of Val d'Or, approximately 15 km east of the downtown core and approximately 6 km south of Route 117, west of Chemin du Lac-Sabourin (Map 1).








The Goldex mining complex, where the Akasaba West ore will be processed, is located some 30 km from the project, but still within the municipal limits of Val d'Or.

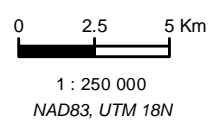
It should also be mentioned that the Akasaba West project does not encroach on any federal land.

According to the cadastral data, the Akasaba West project is located:

- Block 44, Range IV, Louvicourt Township;
- Undivided part of Range III, Louvicourt Township;
- Undivided part of Range IV, Louvicourt Township;
- Undivided part of Range III, Bourlamaque Township;
- Undivided part of Range IV, Bourlamaque Township.




-  Main Road
-  Secondary Road
-  Railroad
-  Municipal Limits
-  MRC Limits
-  Caribous-de-Val-d'Or Biodiversity Area
-  Akasaba West Mining Titles



Sources :
 Map : RNCan, BNDT 250 K, feuillets 31M, 31N, 32C et 32D
 Municipal Limits : SDA20K 2010-01
 Biodiversity Area : GESTIM, MRN (2014-03-15)

Preparation: J. Marcoux
 Drawing: M. L'évesque
 Approval: J. Marcoux



ENVIRONMENTAL AND SOCIAL
 IMPACT ASSESSMENT - PROJECT
 DESCRIPTION AND NOTICE

Akasaba West Project,
 Val-d'Or, Qc

Map 1

Akasaba West Project Location

File : 141_14776_00_APM1_029_locaFrolet_141008.mxd

2 GENERAL PROJECT DESCRIPTION

2.1 HIGHLIGHTS

The Akasaba West Project is essentially a conventional open-pit mine. Conventional drilling, blasting, loading and trucking methods will be used to extract and transport the ore.

The total stated volume of the resources is nearly 6 Mt of ore, with average gold and copper grades of 0.73 g/t and 0.4%, respectively.

The ore extracted from the Akasaba West open-pit mine will be processed at the Goldex processing plant. Its ore processing throughput will increase from approximately 5,500 to 8,500 t/d, an average increase of 2,830 t/d compared to current levels. It should be noted that, since 2011, the Goldex concentrator has been authorized and able to process a maximum of 9,500 t/d of ore.

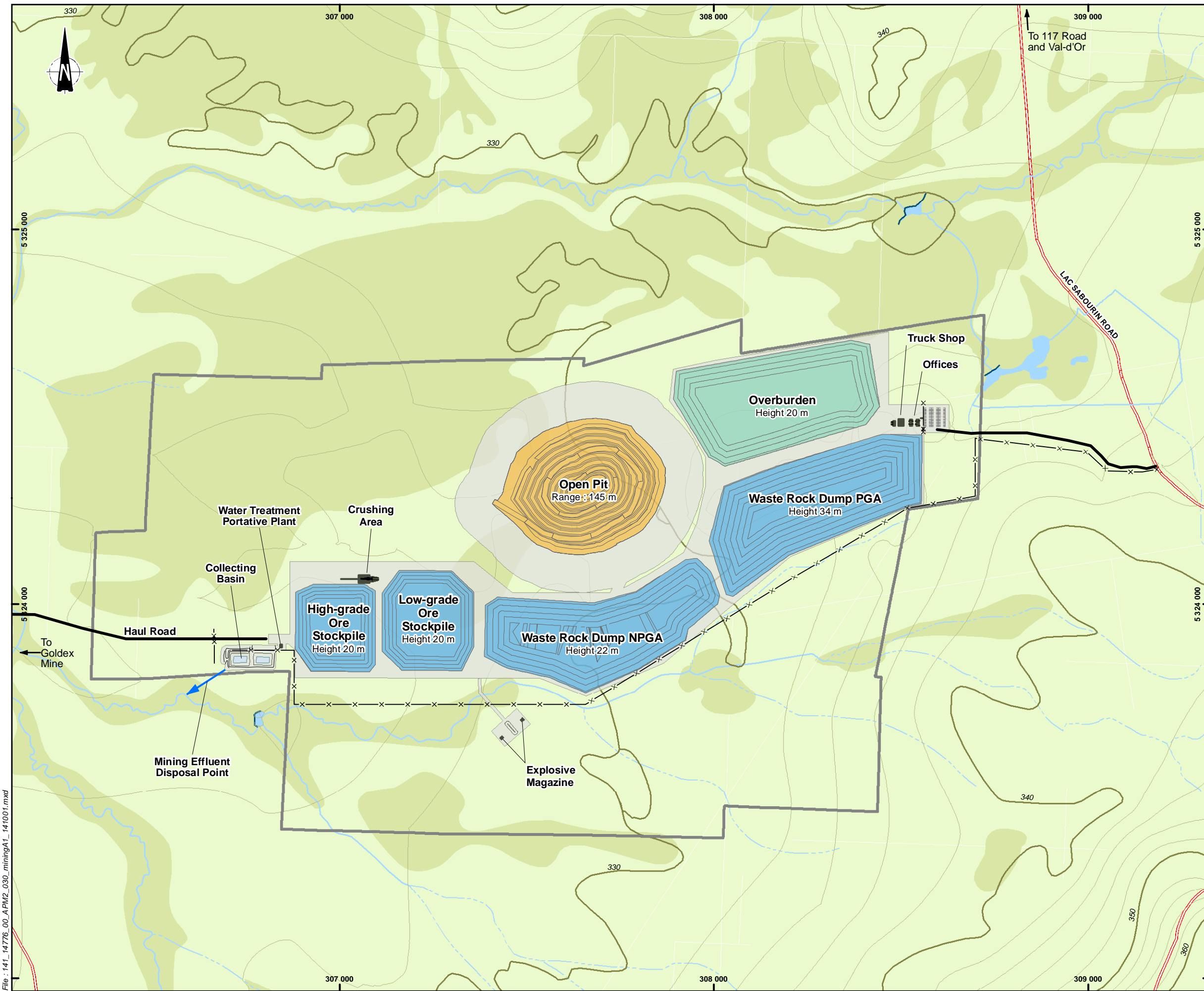
After extraction, the ore will be crushed using a gyratory crusher (Crusher #1) to a size of 0-15 cm and then sent to the Goldex plant's ore stock pile. A second, mobile crusher (Crusher #2) will be set up to crush the non-acid generating (NAG) waste rock for the production of granular material to be used for construction.

Part of the tailings generated by the Akasaba West ore and stored at Goldex will be sent to the Manitou tailings management facility, and some will be used as backfill in the Goldex mine's underground mine. The Manitou site is an old tailings management facility that became an orphan site in 2003. Its remediation is the subject of a joint project between AEM and the Quebec Department of Energy and Natural Resources.

The Akasaba West tailings, like the Goldex tailings which are currently being sent to the Manitou site, show a neutralizing capacity, and will be used for the rehabilitation of the Manitou tailings management facility. The similarity of the Akasaba West and Goldex mine tailings is a prerequisite for their mixing and disposal at the Manitou site.

The amount and size of the mine infrastructure was established on the basis of a gold price of between US\$1,200 and US\$1,600/oz (Maps 2 to 5). For this reason, there is a difference in the values for the infrastructure characteristics between the two scenarios under study, i.e., Scenario A at US\$1,200/oz and Scenario B at US\$1,600/oz.

The estimated life of the Akasaba West mine is between 4 and 6 years (depending on the production scenario), including the pre-production year and a period during which there will only be the transport of stockpiled ore. Production will take place 24 hours a day and 365 days a year.



Biology Environment	Hypsometry
<ul style="list-style-type: none"> Wetland Vegetation 	<ul style="list-style-type: none"> Intermediary Contour Line (2 m) Master Contour Line (10 m)
Hydrography	
<ul style="list-style-type: none"> Lake Stream Intermittent Creek Beaver Dam 	
Transport	
<ul style="list-style-type: none"> Unpaved Road 	
Akasaba Project	
<ul style="list-style-type: none"> Dump Overburden Open Pit Building Footprint Mining Title Limit 	<ul style="list-style-type: none"> Access Road Fence Various Equipment
<p>0 100 200 400 m</p> <p>1 : 10 000</p> <p>Projection : NAD83, UTM 18N</p>	



**ENVIRONMENTAL AND SOCIAL
IMPACT ASSESSMENT - PROJECT
DESCRIPTION AND NOTICE**

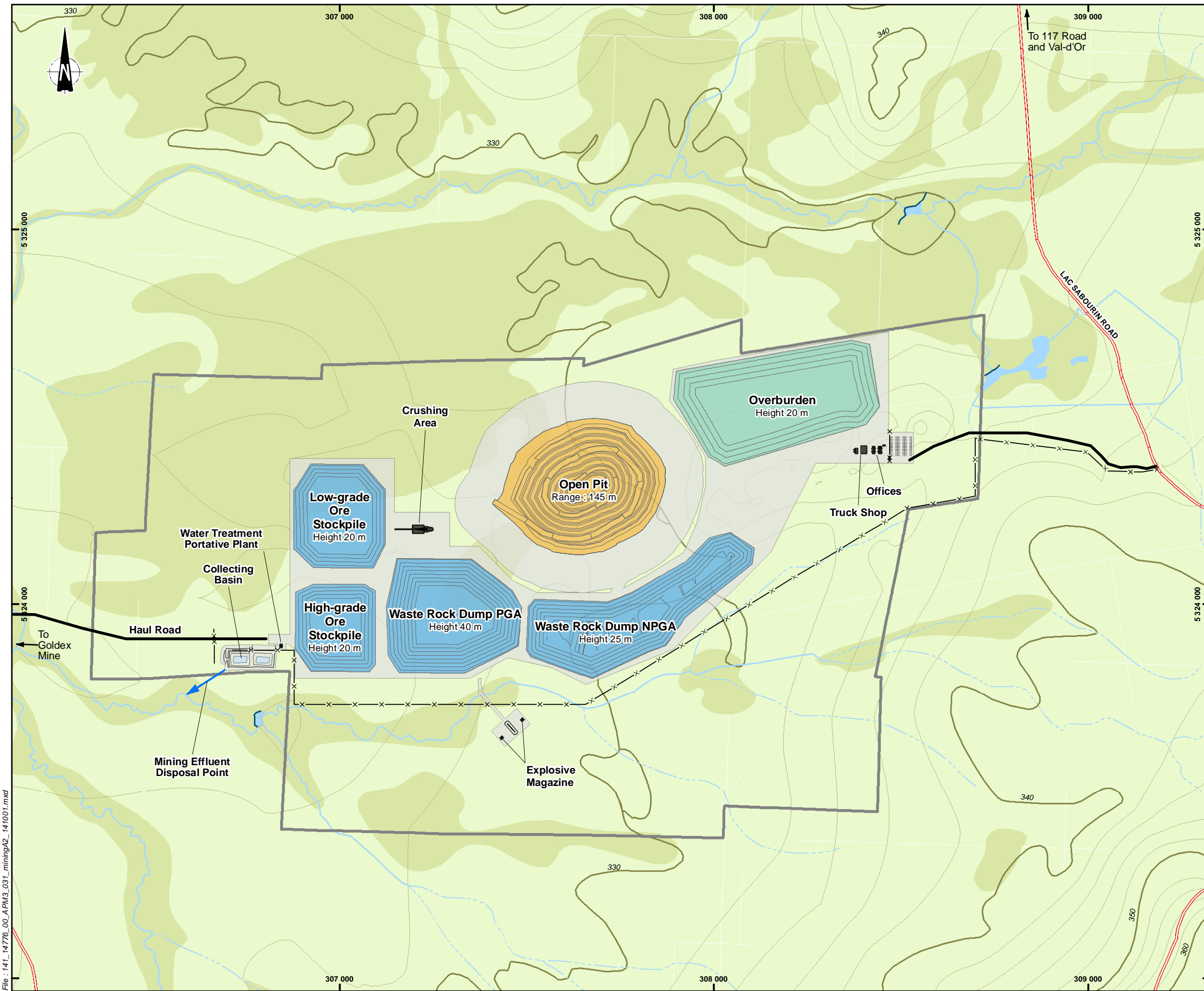
Akasaba West Project,
Val-d'Or, Qc

Map 2

**Mining Infrastructures,
A1 Alternative Version**

<p>Sources :</p> <p>Maps : - MRN, BDTQ 20 K, 32C04-102 sheet - ESRI World topographic Map Municipal Limits : SDA20K, 2010-01 Hypsometry : Agnico Eagle (2014-07-23) Project : Agnico Eagle (2014-08-25), file ACAD-1202-000-210-001_RA_OPT A1 AK_A_UTM18.dwg</p>	<p>Preparation: J. Marcoux Drawing: M. Lévesque Approval: J. Marcoux</p>
<p>October 1st, 2014 141-14776-00-100</p>	

File : 141_14776_00_APM2_030_miningA1_141001.mxd



Biology Environment	Hypsometry
Wetland	Intermediary Contour Line (2 m)
Vegetation	Master Contour Line (10 m)
Hydrography	
Lake	
Stream	
Intermittent Creek	
Beaver Dam	
Transport	
Unpaved Road	
Akasaba Project	
Dump	Access Road
Overburden	Fence
Open Pit	Various Equipment
Building	
Footprint	
Mining Title Limit	

0 100 200 400 m
1 : 10 000
Projection : NAD83, UTM 18N



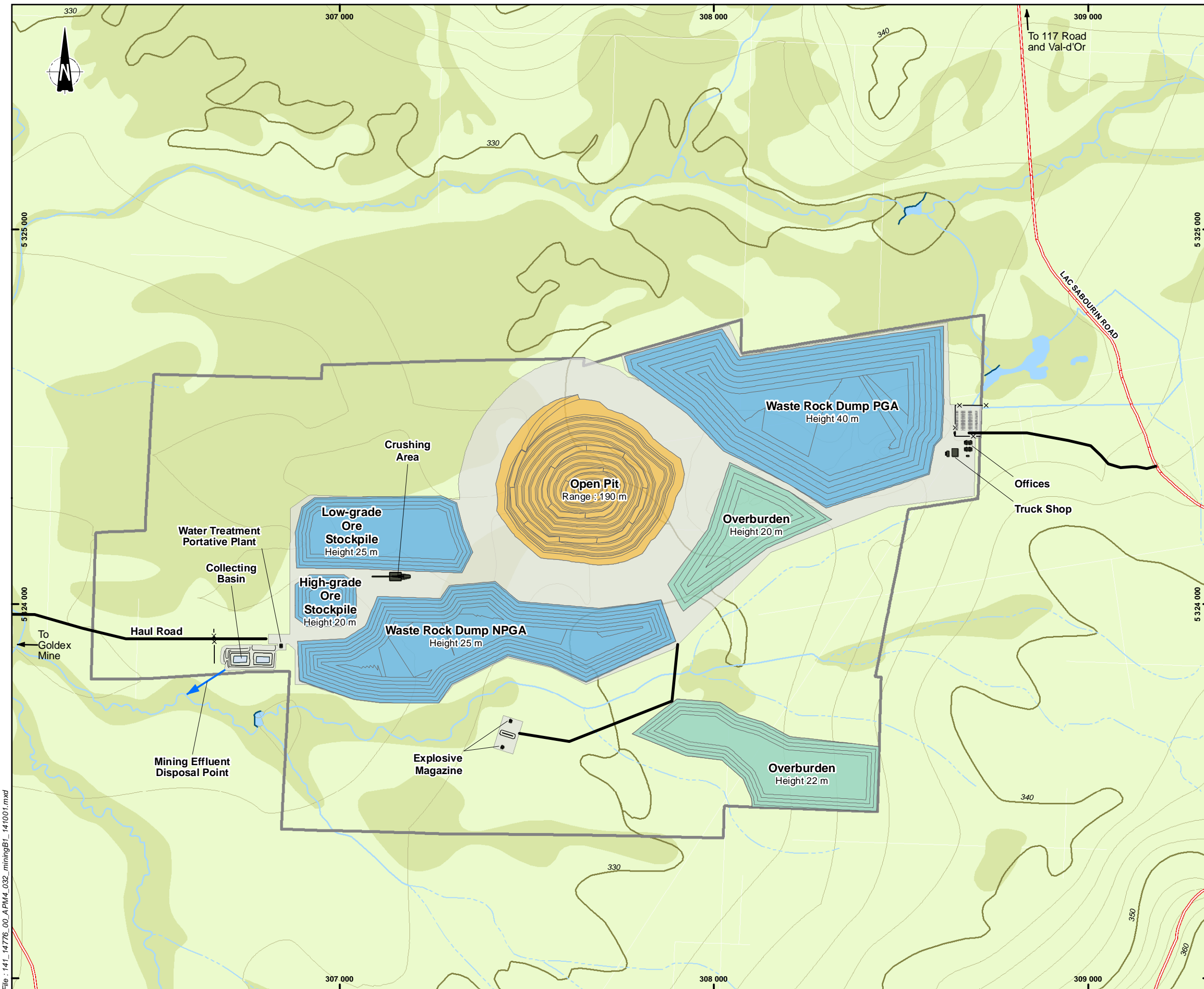
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT - PROJECT DESCRIPTION AND NOTICE
Akasaba West Project, Val-d'Or, Qc

Map 3
Mining Infrastructures, A2 Alternative Version

<p>Sources : Maps : - MRN, BDTQ 20 K, 32C04-102 sheet - ESRI World topographic Map Municipal Limits : SDA20K, 2010-01 Hypsometry : Agnico Eagle (2014-07-23) Project : Agnico Eagle (2014-07-22), file ACAD-1202-000-210-001_RA_OPT A2 AK_A_UTM18.dwg</p>	<p>Preparation: J. Marcoux Drawing: M. Lévesque Approval: J. Marcoux</p>
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October 1st, 2014 141-14776-00-100

File : 141_14776_00_APM3_031_miningA2_141001.mxd



Biology Environment	Hypsometry
Wetland	Intermediary Contour Line (2 m)
Vegetation	Master Contour Line (10 m)
Hydrography	
Lake	
Stream	
Intermittent Creek	
Beaver Dam	
Transport	
Unpaved Road	
Akasaba Project	
Dump	Access Road
Overburden	Fence
Open Pit	Various Equipment
Building	
Footprint	
Mining Title Limit	

0 100 200 400 m
1 : 10 000
Projection : NAD83, UTM 18N



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**ENVIRONMENTAL AND SOCIAL
IMPACT ASSESSMENT - PROJECT
DESCRIPTION AND NOTICE**
Akasaba West Project,
Val-d'Or, Qc

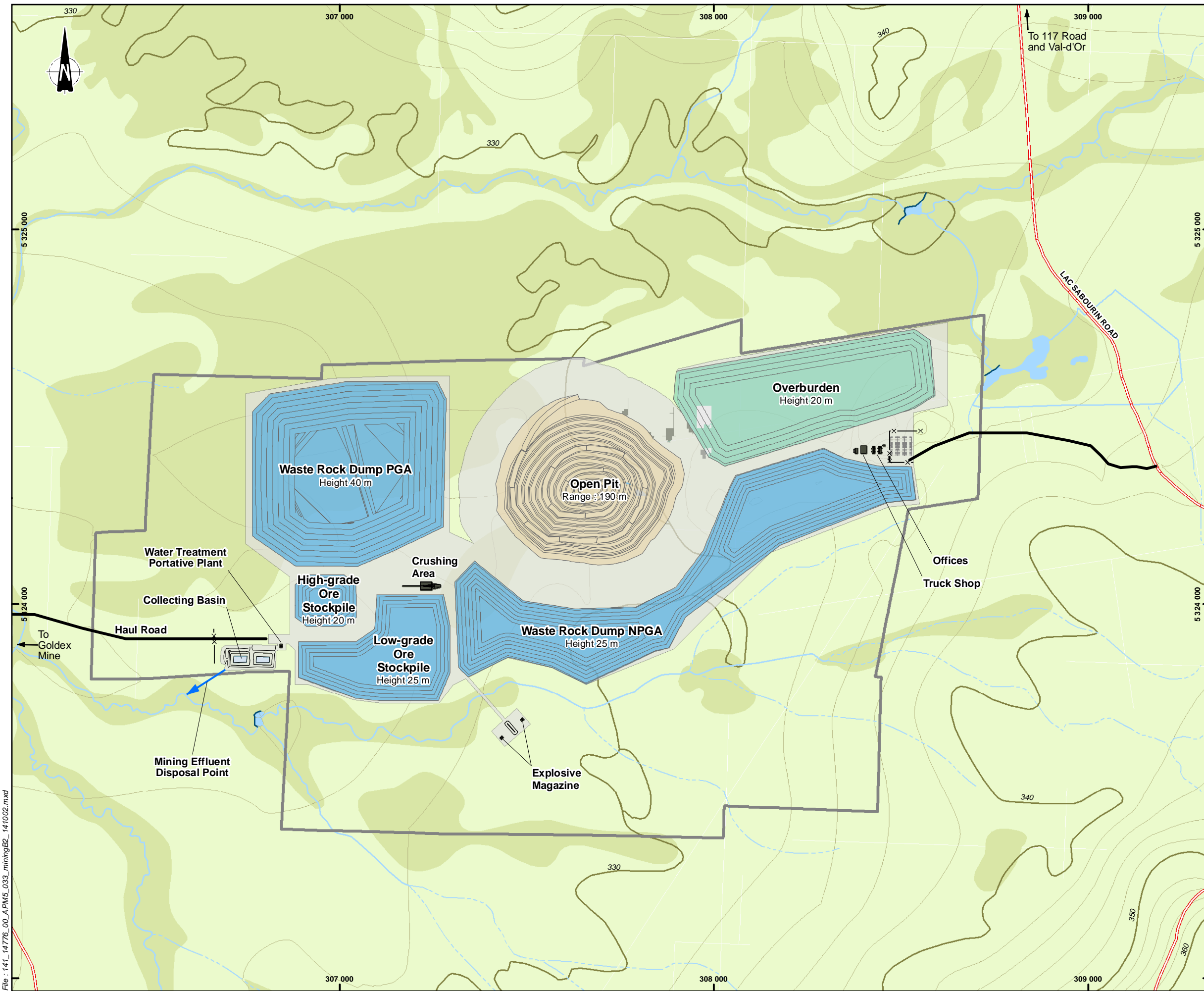
Map 4
**Mining Infrastructures,
B1 Alternative Version**

Sources : Maps : - MRN. BDTQ 20 K, 32C04-102 sheet - ESRI World topographic Map Municipal Limits : SDA20K, 2010-01 Hypsometry : Agnico Eagle (2014-07-23) Project : Agnico Eagle (2014-08-25), file ACAD-1202-000-210-001_RA_OPT B1 AK_B_UTM18.dwg	Preparation: J. Marcoux Drawing: M. Lévesque Approval: J. Marcoux
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WSP

October 1st, 2014 141-14776-00-100

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Biology Environment	Hypsometry
<ul style="list-style-type: none"> Wetland Vegetation 	<ul style="list-style-type: none"> Intermediary Contour Line (2 m) Master Contour Line (10 m)
Hydrography	
<ul style="list-style-type: none"> Lake Stream Intermittent Creek Beaver Dam 	
Transport	
<ul style="list-style-type: none"> Unpaved Road 	
Akasaba Project	
<ul style="list-style-type: none"> Dump Overburden Open Pit Building Footprint Mining Title Limit 	<ul style="list-style-type: none"> Access Road Fence Various Equipment
<p>1 : 10 000</p> <p>Projection : NAD83, UTM 18N</p>	



**ENVIRONMENTAL AND SOCIAL
IMPACT ASSESSMENT - PROJECT
DESCRIPTION AND NOTICE**

Akasaba West Project,
Val-d'Or, Qc

Map 5

**Mining Infrastructures,
B2 Alternative Version**

<p>Sources :</p> <p>Maps : - MRN, BDTQ 20 K, 32C04-102 sheet - ESRI World topographic Map Municipal Limits : SDA20K, 2010-01 Hypsometry : Agnico Eagle (2014-07-23) Project : Agnico Eagle (2014-08-25), file ACAD-1202-000-210-001_RA_OPT B2 AK_B_UTM18.dwg</p>	<p>Preparation: J. Marcoux Drawing: M. Lévesque Approval: J. Marcoux</p>
<p>October 2nd, 2014 141-14776-00-100</p>	

File : 141_14776_00_APM15_033_miningB2_141002.mxd

To summarize, the main elements of the Akasaba West Project are as follows:

- An open-pit mine from which 15 to 28 Mt of ore and waste rock will be excavated. The pit will be 500 m long and 350 to 450 m wide and will have a maximum depth varying from 145 and 190 m depending on the mining scenario;
- An average extraction rate of between 7,000 and 15,000 tonnes of rock per day, for a daily ore production of 0 to 10,000 t/d, over a 4 to 6-year period, including the pre-production year;
- The pit will be kept dry using wells installed along its outside perimeter. The water will be pumped so as to minimize the infiltration of groundwater into the pit. Since the pumped groundwater will not be in contact with the pit or any other sources of contamination, it is not anticipated that it will require treatment prior to being returned to the surface drainage network.
- The water (surface and groundwater) that finds its way into the pit and the runoff from the waste rock piles will be collected using sumps and pumping stations. It will be directed to water collection basins and treated before being discharged to an unnamed tributary of the Sabourin River;
- An ore transport rate (via the haul road) and milling rate (which will vary depending on the ore supply requirements of the Goldex concentrator) of approximately 2,000 to 4,000 t/d. This rate could reach 5,000 t/d in the event of an interruption in the ore supply from the Goldex mine;
- A high-grade and a low-grade ore stockpile, for a total of around 1.5 Mm³, enough to supply the concentrator for 1 to 3 years after the end of the mining period;
- A non-acid-generating waste rock pile, with a capacity of approximately 1.6 to 3.9 Mm³¹ of waste rock;
- A potentially acid-generating waste rock pile, with a capacity of approximately 2.1 to 5.3 Mm³ of waste rock;
- An overburden pile which will contain approximately 1.7 to 2.2 Mm³ of material;
- The probability of constructing a haul road;
- Administrative buildings, an explosives storage facility, a petroleum product storage facility, ore crushers and granular material crushers for road maintenance, a mobile water treatment plant and a mechanical garage. All these elements will be located on the Akasaba West property.

¹ Once completed, the geochemical studies will allow for the precise assessment of what volume of ore will or will not be acid generating.

2.2 RELATED INFRASTRUCTURE

In addition to the previously described haul road, the related infrastructure used as part of the Akasaba West Project includes the existing road and the pipeline between the Manitou site and the Goldex concentrator, the Goldex water treatment plant, and the Manitou site for the partial disposal of the tailings.

Because all of this infrastructure already exists, no construction will be required. The only infrastructure that requires modification is the existing 150,000 t-capacity ore stockpile of the Goldex mine, to ensure that the ore from the two mines remains separate. The authorizations required to redevelop this ore stockpile will be requested as part of the regular operations of the Goldex mine.

2.3 PROJECT SCHEDULE

2.3.1 CONSTRUCTION PHASE (2017)

2.3.1.1 STRIPPING AND CLEARING

Clearing and land preparation activities (overburden stripping, etc.) prior to the construction of the buildings, mining equipment, as well as the pit, hauling road, waste rock and ore piles. The overburden will be stored in a predetermined location and reused upon site closure.

2.3.1.2 WORK SITE ORGANIZATION

Installation of work site trailers and fuel depot, and repairs to existing roads, if necessary.

2.3.1.3 CONSTRUCTION OF FACILITIES

Construction of infrastructure such as the garage, administrative offices, the base for the crusher, the pit dewatering water pumping stations, the water diversion canals, the hauling road base, etc.

2.3.2 PRODUCTION PHASE (2018 TO 2020 OR 2022 DEPENDING ON THE PRODUCTION SCENARIO)

2.3.2.1 PIT

Drilling and blasting as well as ore and waste rock extraction activities. Pit dewatering is also associated with this project component.

2.3.2.2 ORE STOCKPILING

Area for stockpiling ore (high and low grade) excavated from the pit prior to transportation to the treatment plant.

2.3.2.3 WASTE ROCK PILES

Areas for accumulation of waste rock depending on whether or not they have acid-generating potential.

2.3.3 MINE CLOSURE AND REHABILITATION (2021 OR 2023 DEPENDING ON THE PRODUCTION SCENARIO)

On completion of mining, AEM will dismantle the various surface facilities. This will be done in accordance with the requirements set out in the document entitled *Guide et modalités de préparation du plan et exigences générales en matière de restauration des sites miniers au Québec* and in *Directive 019 sur l'industrie minière*, as well as with any other applicable legislation, such as the *Soil Protection and Contaminated Sites Rehabilitation Policy* and the *Land Protection and Rehabilitation Regulation* (CQLR, c. Q-2, r. 37). Contaminated soil will be excavated, treated and disposed of at an authorized site.

The pit will be secured by the installation of a barrier or other means to prevent access. Surface drainage will be modified to allow gradual filling of the pit.

The depleted ore stockpiles, dismantled buildings, roads and parking areas will be covered with a layer of topsoil and planted with native plant species.

The waste rock pile(s) which could possibly be acid generating and/or leach metals, will be properly contained to prevent any leaching to surface water or infiltration to groundwater. One of the rehabilitation options that will be assessed will be the disposal of the waste rock in the pit.

Lastly, the mine water will be monitored and treated until it meets the discharge criteria.

2.4 WASTE MANAGEMENT

Waste will be generated as part of the Akasaba West project. It will come from the activities carried out at the mine site and at the Goldex mine industrial site. Table 1 shows the activities and types of waste associated with each site, as well as the planned management method. It should be noted that these activities are already being carried out at the Goldex site and they are already being managed effectively. Except for sanitary wastewater, the only change to result from the production and treatment of ore from Akasaba West would be the quantity of waste.

Table 1 Main waste produced by Akasaba West

Activity	Type of Waste	Management Method
Mechanical maintenance	<ul style="list-style-type: none"> - Used oils - Used antifreeze - Batteries - Etc. 	<p>Recycling through companies providing collection and final disposal services. Storage containers meeting standards will be used.</p> <p>Complex mechanical work will be carried out at the contractor's garage.</p> <p>Hazardous waste will be briefly stored on site in a container reserved for this purpose before being transported to the Goldex site where it will be managed in accordance with Goldex's hazardous waste management procedure.</p>
Handling of explosives	<ul style="list-style-type: none"> - Boxes of explosives - Containers of explosives 	Sent to Goldex for inclusion in their explosives waste management procedure.
Material crushing	<ul style="list-style-type: none"> - Dust generation - Noise generation 	The crushers will operate under a shelter which will limit dust dispersal and reduce noise levels.
Site operation	<ul style="list-style-type: none"> - Noise and dust generated by machinery - Spills caused by machinery 	<p>Water trucks will be used to control the dust generated on the site's roadways and access roads.</p> <p>A preventive maintenance plan will be followed; contaminated soil will be managed in accordance with the same procedure used at Goldex.</p>
Other activities	<ul style="list-style-type: none"> - Domestic waste generated by the workers - Domestic wastewater (toilets) 	<p>Domestic waste will be stored in animal-proof containers and will be regularly sent to Goldex to be included in its domestic waste management system.</p> <p>Domestic wastewater will be stored in a reservoir and subsequently dealt with by a specialized company.</p>

2.5 STUDIED SCENARIOS AND ALTERNATIVES

Two scenarios and a few alternatives for the Akasaba West Project have been or are being assessed.

- Scenario A, which is based on a gold price of US\$1,200/oz, and Scenario B, which is based on a gold price of \$1,600/oz.
- Alternatives 1 (Maps 2 and 3) and 2 (Maps 3 and 4) for the location and configuration of the ore stockpiles and waste rock and overburden piles.
- Ore haul road between the Akasaba West and Goldex sites:
 - New access roads between the Akasaba West site and the Manitou site and the use of existing access roads;
 - Use of Chemin du Lac-Sabourin and Route 117.
- Ore crushing:
 - At the Akasaba West site;
 - At the Goldex mine.

3 DESCRIPTION OF THE NATURAL ENVIRONMENT

3.1 STUDY AREAS

Two study areas have been defined for the assessment of the impacts of the Akasaba West mining project on the biophysical and human environments: a limited study area (Map 6) and an extended study area (Map 7).

3.2 HYDROLOGY

The proposed Akasaba West mine site drains to a single sub-watershed, which flows east to west to an unnamed tributary of the Sabourin River. The latter river flows into the Bourlamaque River, which flows north to Lake Blouin, on the northern edge of Val-d'Or. Lake Blouin empties into the Harricana River, which flows north into James Bay.

3.3 GROUNDWATER

In terms of hydrogeology, the Akasaba property is characterized by the presence of four hydrostratigraphic units, namely:

1. bedrock, which constitutes a medium- to low-permeability regional aquifer;
2. glacial till composed of gravel and pebbles in a relatively thin silt matrix, which constitutes an aquitard;
3. glaciolacustrine sediment composed of silt, which varies from 0 to 5 m in thickness in the wells; and
4. surface horizon of organic matter, which is less than 1 m thick in the boreholes drilled in April 2014.

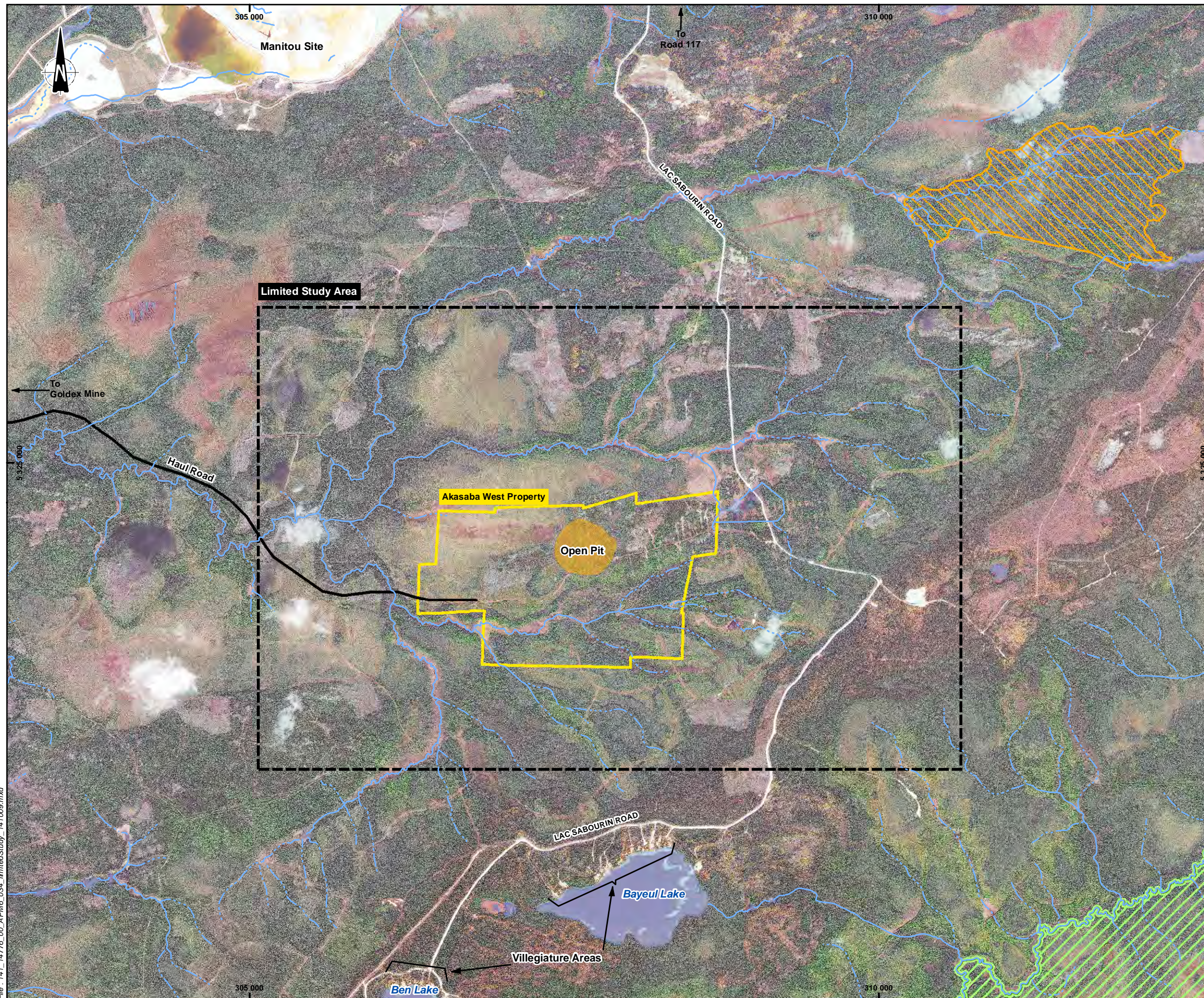
Roughly 2 km south-east of the Akasaba West property, there is an aquifer in glaciofluvial sediment composed of sand and gravel, known as the Lake Sabourin esker. This aquifer is commonly used as a water supply source for isolated residences surrounding Lake Bayeul. It should be noted that none of the boreholes drilled in April 2014 show any underground extension of this unit onto the Akasaba property.

In terms of groundwater flow, the piezometric surface generally conforms to the surface topography. Indeed, most of the boreholes reach the piezometric surface at a depth of less than 1 m. The interpolation of water levels measured in the 113 wells shows that the groundwater generally flows in a westerly direction.

According to the DRASTIC vulnerability index, the regional aquifer is considered to be of average vulnerability with indices of between 105 and 150 at the mine site.

The groundwater sampled is generally a calcium bicarbonate type, with generally alkaline pH and with an average concentration of dissolved solids. It is a reducing environment and dissolved oxygen concentrations are representative of anaerobic conditions. The groundwater quality is affected by some exceedances of drinking water criteria, specifically for arsenic.

A digital subsurface flow model based on field data collected in 2014 will be used to define the area of influence (the groundwater cone of depression around the pit) and the corresponding water collection flow rate.



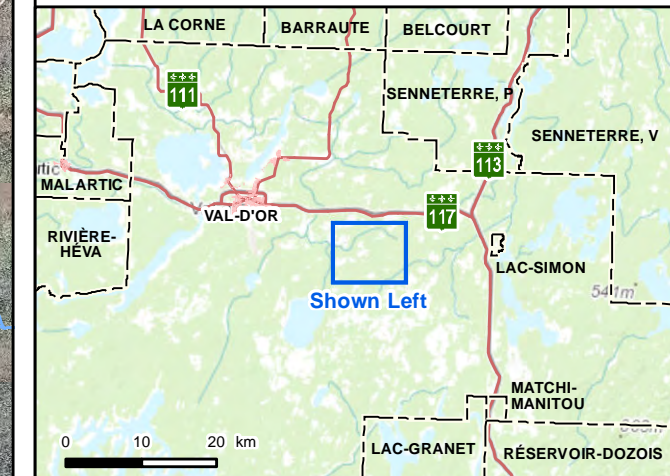
Study Area
 Study Area

Hydrographie
 Lake
 Stream
 Intermittent Creek

Protected Areas
 Caribous-de-Val-d'Or Biodiversity Area
 Biological Refuge Project

Akasaba West Project
 Open Pit
 Mining Titles Limit
 Haul Road

0 300 600 1 200 m
 1 : 30 000
 Projection : NAD83, UTM 18N



AGNICO EAGLE

**ENVIRONMENTAL AND SOCIAL
 IMPACT ASSESSMENT - PROJECT
 DESCRIPTION AND NOTICE**
 Akasaba West Project,
 Val-d'Or, Qc

Map 6
Limited Study Area

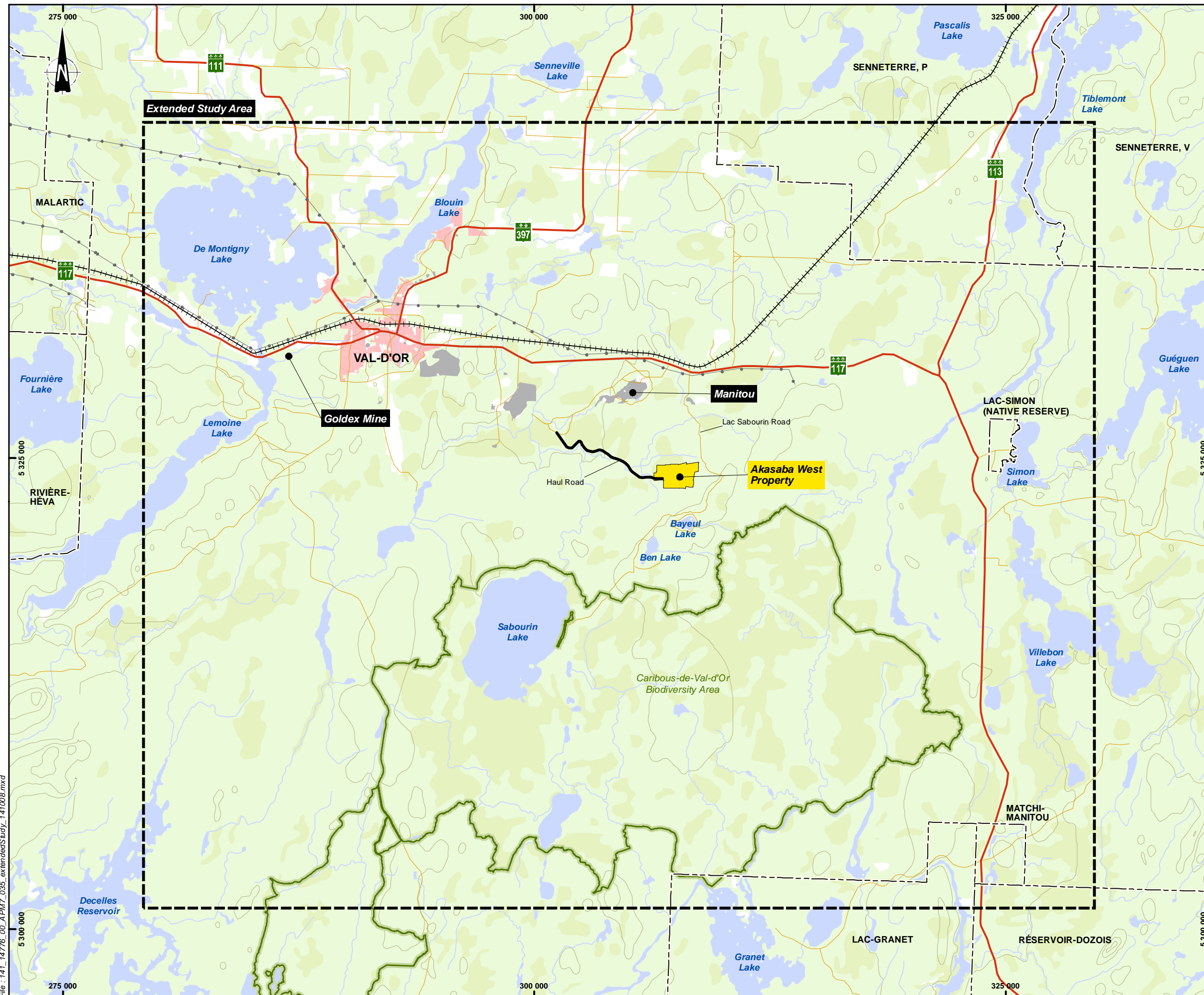
Sources :
 Satellite image : DigitalGlobe, Worldview-2, 2013-10-05
 Map : ESRI World topographic Map
 Hydrography : MRN BDTQ 20K, 32C04-102 sheet
 Municipal Limits : SDA20K, 2010-01
 Biodiversity Area : GESTIM, MRN (2014-03-15)
 Biological Refuge Project : MRN (2014-02-11)
 Project : Agnico Eagle (2014-08-25), file ACAD-1202-000-2.10-001_RA_OPT B1 AK_B_UTM18.dwg

Preparation: J. Marcoux
Drawing: M. Lévesque
Approval: J. Marcoux

October 9th, 2014 141-14776-00-100

WSP

File : 141_14776_00_APM6_034_LimitedStudy_141009.mxd



Legend

- Municipal Limits
- Study Area
- Mining Area / Industrial Depot

Transport

- Main Road
- Secondary Road
- Railroad
- Electric Transmission Line

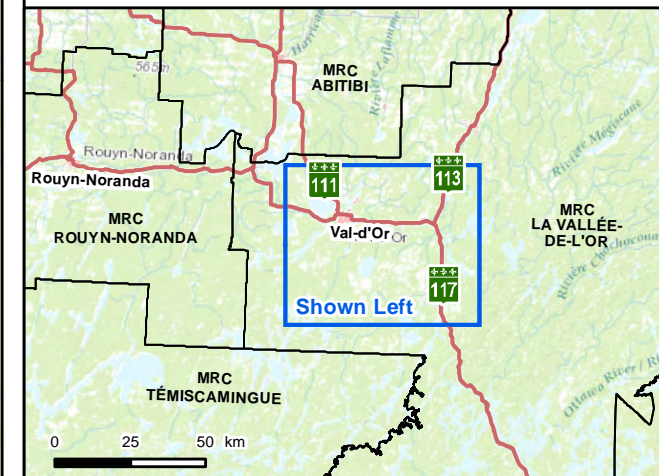
Protected Area

- Caribous-de-Val-d'Or Biodiversity Area

Akasaba West Project

- Mining Titles Limit
- Haul Road

0 2 4 8 Km
1 : 200 000
Projection : NAD83, UTM 18N



AGNICO EAGLE

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT - PROJECT DESCRIPTION AND NOTICE

Akasaba West Project, Val-d'Or, Qc

Map 7

Extended Study Area

Sources :

- Maps : - ESRI World topographic Map
- BNDT 250K, sheets 31M, 31N, 32C and 32D
- CanMap 2011

Municipal Limits : SDA20K, 2010-01

Biodiversity Area : GESTIM, MRN (2014-03-15)

Projet : Agnico Eagle (2014-07-22), fichier ACAD-1202-000-2.10-001_RA_OPT A1 AK_A_UTM18.dwg

Preparation: J. Marcoux
Drawing: M. Lévesque
Approval: J. Marcoux

WSP

October 8th, 2014 141-14776-00-100

File : 141_14776_00_APM7_035_extendedStudy_141008.mxd

3.4 SURFACE WATER QUALITY

The *in situ* water quality measurements indicate that the water of streams in the study area is very acidic, with values typically between pH 3.7 and 4.2, with a maximum of pH 5.6. The low pH values can be explained by the dominance of bogs in the watershed.

3.5 GEOCHEMICAL CHARACTERISTICS OF THE WASTE ROCK

The preliminary analyses of the waste rock of the Akasaba West deposit indicate that some lithologic units could be acid generating. Following the acquisition by AEM, a geochemical characterization program of the waste rock was developed in collaboration with Golder Associates to meet MDDELCC requirements and to ensure proper management of the waste rock and ore that will be extracted from the Akasaba West pit.

Initial emphasis will be on the geology (definition of lithologic units), in order to establish a sampling plan that will first measure spatial variability (static tests on waste rock and ore) and secondly measure temporal variability (kinetic tests on the waste rock).

Static tests are currently being performed at an accredited laboratory on a total of 86 grab samples (71 waste rock and 15 ore samples) which represent the six lithological units of the deposit. The static tests consist in analyzing the acid generation potential (ABA), leaching of metals (TCLP and SPLP) and metals content (by ICP).

The results generated by the static tests will be used to calculate the amount of ore and waste rock that will have to be stored at each type of stockpile (open or contained).

The results of these tests will be analyzed and incorporated into the environmental impact assessment report of the Akasaba West Project.

3.6 VEGETATION AND SPECIAL-STATUS PLANT SPECIES

The field inventories conducted in 2014 indicate that, in general, the study area is primarily dominated by conifers. Three main species occur in varying proportions, namely black spruce, jack pine and balsam fir.

There are numerous wetlands consisting mainly of isolated bogs and swamps, as well as a few riparian environments. The largest and most common of these within the study area are ombrotrophic bogs.

No at-risk plant species were observed in the vegetation inventory in July 2014.

3.7 AQUATIC WILDLIFE

Captures conducted in various parts of the study area revealed a single cyprinid species, the brook stickleback. Given the poor quality of the fish habitat, it is unlikely that the rivers and streams likely to be affected by the mining project support species of interest, such as brook trout and walleye.

3.8 MAMMALS

The study area is likely to support a wide diversity of mammals, including black bears, moose and white-tailed deer, as it is located in a transition area where southern and northern species can coexist.

South of the proposed mine site, there is the small Val d'Or woodland caribou population, a sub-species designated vulnerable in Quebec and threatened in Canada. This population is isolated from the woodland caribou's continuous range in Quebec. There has been a decline in the population in recent decades, from approximately 50 individuals in the 1990s to fewer than 20 since 2012. This population has been the subject of a specific recovery strategy since 2010 and a 434-km² biodiversity reserve was established for its benefit in 2009. This reserve is several kilometres south of the proposed Akasaba West mine site.

3.9 REPTILES AND AMPHIBIANS

During the point count surveys of birds conducted in the limited study area, the following five anuran species were seen or heard: American toad, mink frog, bullfrog, spring peeper and green frog.

Field inventories identified the red-bellied snake for the first time in the study area, a species which had apparently never previously been observed in the Abitibi-Témiscamingue region.

3.10 BIRDS

Field inventories identified 73 species of bird within the project's limited study area. These include three special-status species, namely the common nighthawk, olive-sided flycatcher and bald eagle.

4 DESCRIPTION OF THE HUMAN ENVIRONMENT

The majority of the extended study area lies within the territory of the municipality of Val-d'Or, the regional centre of the Vallée-de-l'Or RCM, which is in turn an integral part of the Abitibi-Témiscamingue administrative region. It also crosses the municipality and parish of Senneterre, in the northeastern section and the Anishinabe First Nation of Lac-Simon, located more than 30 km east of the project (Map 1). The Kitcisakik First Nation is located over 45 km south of the project, on the shores of Grand Lac Victoria, outside the established boundaries of the extended study area. The project is located outside Cree Nation's lands covered by agreements.

The extended study area consists primarily of Crown land and is dominated by forests punctuated by intensive and extensive recreational areas. There are recreational tourism areas associated with lakes Sabourin, Ben and Bayeul, the lakes closest to the Akasaba West mine site. Information provided by the municipality of Val-d'Or indicates the presence of numerous properties, mostly cottages, but also some permanent residences. There are 22 properties around Lake Bayeul, 7 of which are permanent homes; 64 properties around Lake Ben, 20 of which are permanent homes; and seasonal residences on 49 properties around Lake Sabourin. There are also 11 residences in the Colombière sector, at the junction of Route 117 and Chemin du Lac-Sabourin. In addition, there are a number of major recreational tourism areas northwest of Val-d'Or, bordering lakes Montigny, Blouin and Lemoine. There are no federal lands within the project area.

The extended study area has numerous recreational leaseholders for rough shelters, which reflects the importance of hunting. It touches on registered trapping lots as well as trapping lots² associated with users from the Algonquin communities of Lac-Simon (3 lots) and Kitcisakik (1 lot).

Route 117, a provincial highway, runs east-west through the extended study area, then turns south in the eastern part. From west to east, Route 117 this road connects with Routes 111, 397 and 113. There is also a section of Canadian National's railway that runs along Routes 117 and 113.

The limited study area contains areas of low archaeological potential only. They are located along the banks of the many streams and rivers that run through the area.

With regard to ancestral land rights, the Akasaba West project site is on land traditionally frequented by the Algonquin communities of Kitcisakik and Lac-Simon before the colonization of Abitibi and the founding of the municipality of Val-d'Or. These two communities share contiguous traditional territory and have very close family ties, being descended from a single group that split into two separate political entities in the first quarter of 20th century.

² Reference: Ministère des Ressources naturelles et de la Faune. 2007. *Aires de trappe, territoires d'intérêt autochtones et MRC. Régions de l'Abitibi-Témiscamingue et du Nord-du Québec (secteur sud-ouest)*. Map scale 1:1,750,000.

The Algonquin communities of Lac-Simon and Kitcisakik (Grand Lac Victoria) are members of the Algonquin Anishinabeg Nation Tribal Council (AANTC) with five other nations. The fundamental priorities of the AANTC are to protect and advance issues relating to Aboriginal rights and to provide assistance and services to the member communities. The AANTC is generally of the view that the Algonquin people have occupied the Ottawa River watershed, including Abitibi and Témiscamingue, since time immemorial, which means that Algonquin rights and titles would extend to land on both sides of the Ottawa River.

As of October 2014, Aboriginal Affairs and Northern Development Canada's (AANDC) register of comprehensive land claim and self-government negotiation tables does not indicate any processes underway for the AANTC. The AANDC's specific claims progress report does, however, indicate several specific claims filed by the Kitigan Zibi Nation, a member of the AANTC. There is no mention of any outstanding specific claims for the communities of Kitcisakik and Lac-Simon.

At the provincial level, an agreement in principle regarding consultation and accommodation between the Government of Quebec, the Conseil de la Première Nation Abitibiwinni and the Conseil Anishinabe de Lac-Simon was signed in 2012. The purpose of this agreement is to provide a framework to facilitate the conclusion of an agreement on consultation and accommodation for mining projects on a yet-to-be-determined territory.

5 ANTICIPATED ENVIRONMENTAL IMPACTS

The Akasaba West Project's main environmental impacts are:

- possible localized degradation of certain air quality parameters;
- soil erosion and sediment transport;
- changes to surface water flow patterns at the mine site;
- possible modification of water quality downstream from the effluent discharge point;³
- lowering of the groundwater level around the pit (radius of influence initially established at around 1.5 km);
- transformation of the natural environment by the presence of the mining infrastructure on approximately 94 and 125 ha for the various production scenarios developed for gold prices of US\$1,200/ounce and US\$1,600/ounce, respectively;
- wetland loss through encroachment;
- loss of breeding and migratory bird habitat related to the establishment of various infrastructure;
- possible nuisances (noise, vibrations, dust and traffic) to users of the Chemin du Lac-Sabourin and to visitors to Lake Bayeul;
- disruption or displacement of hunting and trapping activities (First Nation and non-Aboriginal).

Given the absence of fish habitat and species at risk in the sector (only a few brook stickleback captures), and that migratory birds will not be significantly harmed following the application of mitigation measures during the work, there is no anticipated impact on these biological environment components.

5.1 ANTICIPATED POSITIVE IMPACTS

The Akasaba West Project will help maintain and increase production capacity at the Goldex concentrator, a plant which currently employs 40 people. With the additional supply of ore from the Akasaba West mine, the number of employees will increase to 42.

The construction work at the Akasaba West mine site will involve around 80 workers, while the mining operations will require 105 people over the four years of operation of the open pit mine.

³ As the receiving aquatic environment is very acidic (pH ≈ 4), discharging mining effluent with a pH > 6 could lower this acidity and promote greater diversity within the aquatic ecosystem.

6 PUBLIC CONSULTATION

6.1 PROCESS

AEM's acquisition of the Akasaba West deposit was made public at the beginning of 2014, and the project was presented to representatives of the municipality of Val-d'Or and the La Vallée-de-l'Or RCM in February 2014. A letter was sent to the residents of Ben Lake and Bayeul Lake on January 31, 2014, to inform them of the acquisition of the Akasaba West deposit and the continuation of the exploration work started by the previous owner in the fall of 2013. In addition, informal exchanges regarding the Akasaba West Project were held in April 2014 with the Aboriginal community of Lac-Simon.

In June 2014, a series of meetings were held with the area's key stakeholders. They served mainly to gather the concerns and expectations with respect to the project, to identify the issues that needed to be taken into account, as well as the elements that would help better integrate the project into its environment, to hear the stakeholders' views regarding the consultation process and to identify other parties that could possibly be interested in the project. Interviews were conducted with the following organizations or stakeholders: Association de chasse et pêche de Val-d'Or, Association des riverains du lac Sabourin, Lake Ben residents, Lake Bayeul residents, Conseil régional de l'environnement de l'Abitibi-Témiscamingue, Action boréale de l'Abitibi-Témiscamingue, Quebec Department of Forests, Wildlife and Parks, La Vallée-de-l'Or RCM, City of Val-d'Or and the Algonquin community of Lac-Simon. A letter was sent to the community of Kitcisakik inviting them to a meeting, but no reply has been received to date.

The stakeholder consultation and engagement plan which will be put in place as part of the development of the Akasaba West Project will have information, consultation and collaboration components.

6.2 MAIN CONCERNS

Through the initiatives described above, the following main concerns were identified: heavy equipment traffic and traffic created by mine employees, especially on Chemin du Lac-Sabourin, the devaluation of lakeside properties within the study area, the project's impacts on recreational tourism activities and land users (hunters), on berry picking, the opening up of the territory, impacts on wildlife, impacts on groundwater, surface water quality and wetlands, management of the mine closure, as well as nuisances associated with the mining of the pit (noise, dust, vibrations).

As previously mentioned, until now, only representatives of the community of Lac-Simon have been met with during the information-consultation activities conducted by AEM (April 11 and July 2, 2014). During these meetings, Lac-Simon representatives expressed the following comments and concerns:

- the community wants to be kept informed regarding the project; it is important that community members be not only informed but also listened to;
- it wants the land affected by the project to be remediated as soon as possible;
- mining activities must not contaminate surface waters;
- impacts on wildlife must be minimized, so as to reduce the effects on hunting and fishing;
- the most significant issue is job opportunities for residents of the community.

The representatives of Lac-Simon added that other concerns and comments could be forthcoming from community members during the public consultations to be held in Lac-Simon.

Appendix 1

LIST OF PERSONS MET

Partie prenante	Date	Personnes ayant été contactées
	-2014	
Riverains du lac Bayeul	03-févr	Tous les riverains habitant à l'année longue
Riverain du lac Bayeul	10-févr	Jacynthe Lafond
Riverains du lac Bayeul	03-juin	Tous les propriétaires du lac Bayeul
Saisonnier du lac Bayeul	17-juin	Jean Marc Audet
Permanent du lac Bayeul	26-juin	Jacynthe Lafond et son conjoint
Riverains du lac Ben	03-févr	Tous les riverains habitant à l'année longue
Riverains du lac Ben	03-juin	Tous les propriétaires du lac Ben
Saisonnier du lac Ben	17-juin	Gaston Richard
Permanent du lac Ben	19-juin	Ben Trépanier
Association des riverains du lac Sabourin	09-juin	Christian D'amour
Association des riverains du lac Sabourin	09-juin	Christian D'amour
Association des riverains du lac Sabourin	12-juin	L'exécutif de l'association
Association des riverains du lac Sabourin	15-juin	Tous les chalets
Association des riverains du lac Sabourin	18-juin	Trois membres de l'exécutif (J-P. Bordeleau, Magella Potter et C. D'Amour
Association des riverains du lac Sabourin	28-juil	C. D'Amour
Responsable du Caribou forestier au MRNF	14-févr	Marcel Paré
Responsables du Caribou forestier au MRNF	22-mai	Marcel Paré et Marc Deschesnes
Responsable du Caribou forestier au MRNF	19-juin	Marcel Paré
Ville de Val-d'Or	20-févr	Jocelyn Faucher, Éric Saint-Germain
Ville de Val-d'Or	17-juin	Jocelyn Hébert
Ville de Val-d'Or	25-août	Daniel Turcotte, Dany Burbridge, Eric St-Germain, Jocelyn Hébert
MRC de la Vallée-de-l'Or	20-févr	Mario Sylvain
MRC de la Vallée-de-l'Or	17-juin	Mario Sylvain
Communauté du Lac-Simon	11-avr	Salomé McKenzie, Stéphane Savard, Adrien Boucher, Ronald Brazeau Émilie Brazeau

Communauté du Lac-Simon (secteur Ressources naturelles)	11-avr	Ronald Brazeau, Geneviève Tremblay et George Wabanonik
Communauté du Lac-Simon	02-juil	Stéphane Savard
ABAT	17-juin	Henri Jacob
CREAT	11-juin	Clémentine Cornille
CREAT	19-juin	Clémentine Cornille
Association des chasseurs pêcheurs de Val-d'Or	18-juin	Jacques Cormier
Communauté de Kitcisakik	11-juin	La cheffe, tous les membres du Conseil de bande et la directrice générale
Communauté de Kitcisakik	08-août	Doris Papatie, directrice générale
Alexandria Minerals	11-mars	Mélanie Pichon et Émilie Batailler
MTQ	16-juin	Jean Iracà, Louise Gonthier, Mario Grenier