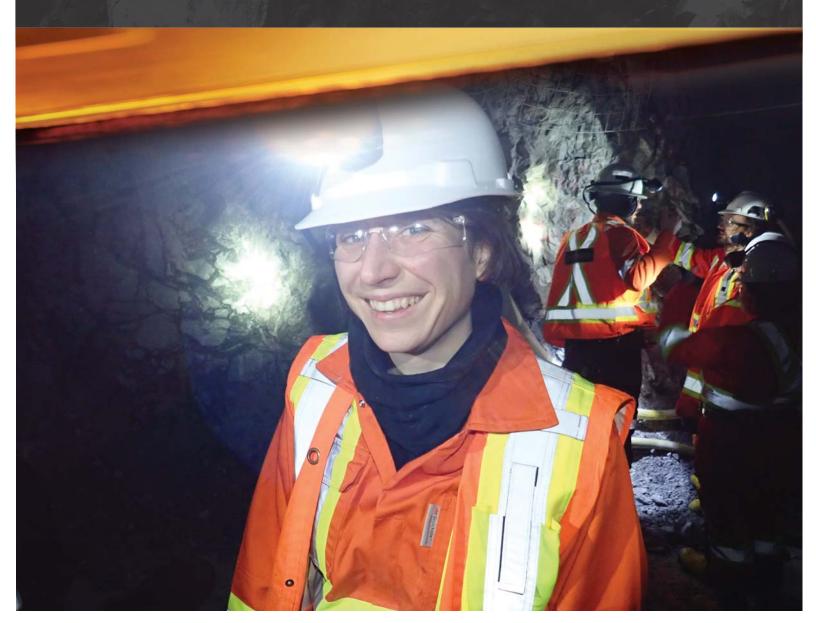


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TSX:OSK

## A **LEADING** CANADIAN GOLD EXPLORATION AND DEVELOPMENT COMPANY



# OSISKO MINING Meeting Purpose

Thank you for attending Osisko's second Open House for the Windfall Lake Gold Project.

## We have invited you here today to:

- Share details on environmental baseline data and the alternatives assessment for the Project;
- Encourage your participation in the Environmental Assessment;
- Get your input on the Project;
- Answer your questions about the Project.

Please feel free to ask questions to any of the Project representatives in attendance at the Open House today.

## Your Input is Important

A key purpose of an Environmental Assessment is to identify issues of importance to local residents and their communities and to include their comments and concerns into the Project planning process.

Please fill out a comment form before you leave so we can have a record of your questions and concerns. This process will allow us to track and follow-up on your comments and concerns.



# OSISKO What we've heard

Osisko submitted the Preliminary Notification report in **May 2017** and the Project Description report in **June 2017** which provides the details of the Project. In **October & November 2017**, we hosted an Open House in Waswanipi, Lebel-sur-Quévillon and Windfall to share the details of the Project Description and get feedback from the public.

## What's Important to You

To date, we have heard that understanding the **Project Description**, **Project schedule** and the **regulatory process** are important to you. We have also heard that you have the following concerns:

- Local Economic Benefits;
- Local Employment and Contracts Opportunities;
- Training;
- Processing Plant Location;
- Tailings Management Facility Location;
- Environment Quality and Environmental Risk Assessment;
- Water, Soil and Air Quality;
- Animals, Fish and Fish Habitat.





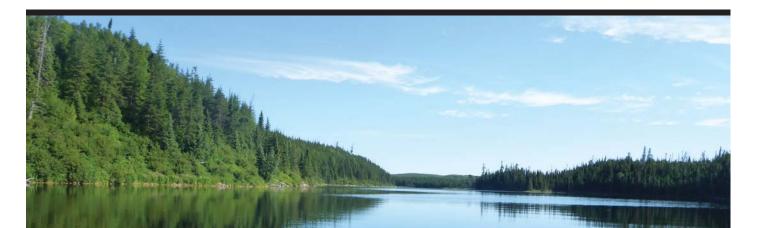
### Steps in the Environmental Impact Assessment Process

The key steps to carrying out an Environmental Impact Assessment are:

- Complete a Project Description and Preliminary Project Notification
- Carry out Baseline Studies
- Identify Study Areas
- Identify Project-Environment Interactions
  - Select Valued Ecosystem Components
  - Conduct an Environmental Impact Analysis

#### **Next Steps**

- Finalized Feasibility Study;
- Assessment of potential effects;
- Publish Environmental Impact Statement / Environmental Assessment (EIS/EA) Report;
- Obtain permitting;
- Ongoing consultation and information sharing with:
  - Aboriginal partners;
  - Governments; and
  - Public.





## How could the project interact with the environment?

The Project will occur in three phases. Activities during each phase may interact with the environmental and social components in different ways.

## **Project Phases**

Construction	Operations	Closure and Post-Closure
Preparing the site and infrastructure for operation of the mine. Preparing the site and infrastructure for the ore processing.	Mining, ore processing and extraction of the gold for the life of the mine.	Decommissioning, closing and stabilization of the mine and associated facilities. Monitoring the effectiveness of closure and consideration of the potential for long-term effects.

#### **Environmental and Social Components**

- Geology and geochemistry;
- Hydrology;
- Hydrogeology;
- Soil Quality;
- Atmospheric environment, including air and light;
- Acoustic environment;
- Water quality and quantity, including surface and groundwater;
- Fish and fish habitat, including sediment quality;
- Vegetation, including country food (e.g. wild game, berries, plants) / Wetland;

- Wildlife and wildlife habitat, including species at risk;
- Avifauna;
- Socio-economic environment;
- Current use of lands and resources by Aboriginal people and the community;
- Human health;
- Landscape;
- Historical, cultural heritage and archaeology.

## OSISKO MINING Potential effects of the project

The impact assessment determines the importance of anticipated environmental impacts on the physical, biological and human environments, at the different stages of the project. This assessment takes into account the measures incorporated at the project design stage, as well as the applicable mitigation and enhancement measures. The impacts that remain after the application of these measures are the «residual impacts».

#### Water Management Systems

- Increased suspended solids in creeks and streams due to wash areas and maintenance facilities;
- · Increased use of water for ore processing;
- · Drawdown of groundwater from mine dewatering;
- Effects to fish and fish habitat from discharge of effluent (treated water).

#### Waste Management Systems (Tailings and Waste Rock)

- · Loss of trees and plants;
- Seepage to soils and groundwater due to runoff from waste rock stockpiles and tailings management facility;
- · Changes in water/soil quality due to accidental spills;
- · Changes in water quality due to discharge of effluent (treated water).

#### Access Road from Lebel-sur-Quévillon to Mine Site

- · Changes to air quality due to increased traffic;
- · Increased disturbance on humans and animals due to increased traffic;
- · Incidents of animal mortality due to traffic.

#### **Ore Processing**

- Changes to air quality due to air emissions from the processing plant;
- · Increased noise levels from the processing plant;
- · Loss of trees and plants;
- Changes to water quality due to discharge of effluent (treated water).

#### Socio-Economics

- · Increased employment;
- Increased need for goods and services;
- Strain on community services and infrastructure due to increase in population;
- Changes to current use of traditional lands and resources by Aboriginal people;
- Visual impacts at the Mine Site and the Process Plant Site.



## How do you think the project might affect you?

## Some examples of questions and comments we've received so far are shown below:

#### "I hope to have a job at Windfall in the next two years."

As the Project moves forward, Osisko's need to hire talented people will continue to grow. Osisko's hiring efforts for the operation phase will likely begin in late 2020 when the permitting is complete and construction can begin.

Construction work is expected to create 300 jobs.

We estimate needing approximately 325 workers during the operation phase, 150 for the mine and 175 for the processing plant and administrative jobs.

#### "When will the development start?"

The present plan will see mine construction initiated in late 2019 and mine commissioning starting after an approximate one-year construction period, in late 2020.

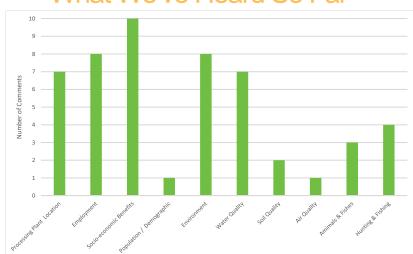
# What important things do you think might be affected by the project?

OSISKO

Animals & FishesPlants and TreesEmploymentContractsCommunity Services /InfrastructurePopulation /DemographicSceneryTraffic	Water Quality	
Animals & FishesPlants and TreesEmploymentContractsCommunity Services /InfrastructurePopulation /DemographicSceneryTraffic	Soil Quality	
Plants and TreesEmploymentContractsCommunity Services / InfrastructurePopulation / DemographicSceneryTraffic	Air Quality	
EmploymentContractsCommunity Services /InfrastructurePopulation /DemographicSceneryTraffic	Animals & Fishes	
Contracts   Community Services /   Infrastructure   Population /   Demographic   Scenery   Traffic	Plants and Trees	
Community Services / Infrastructure Population / Demographic Scenery Traffic	Employment	
Infrastructure   Population /   Demographic   Scenery   Traffic	Contracts	
Population / Demographic Scenery Traffic	Community Services /	
Demographic Scenery Traffic	Infrastructure	
Scenery Traffic	Population /	
Traffic	Demographic	
	Scenery	
Public Health	Traffic	
	Public Health	

Other





## OSISKO MINING Valued Ecosystem Components

It is difficult to methodically consider all of the potential effects a Project could have on the environment. The Environmental Impact Assessment (EIA) will address this by focussing on specific features that are important to stakeholders and can be measured for change.

These features are called Valued Ecosystem Components (VECs), and are chosen based on their cultural or scientific value and their potential vulnerability to the effects of the Project.

VECs can include specific animals or plants (i.e. walleye), or specific habitat types (i.e. wetlands). A VEC is considered to be the 'receptor' for both project-specific effects and cumulative effects.

The VECs have not yet been selected for the Project, but the EIS Guidelines provided a list of environmental components that should be included. The tables below show some examples of potential VECs for different components of the EIA.



# OSISKO What we've heard

## Woodland Caribou and Moose Survey

Study areas have been identified to better understand the potential impacts of the Project on plants and animals. During our discussions, some stakeholders raised a particular interest in woodland caribou and moose. As a response to this concern, an inventory of both species will be undertaken at the future mine site during the winter of 2018.

The woodland caribou inventory area covers a zone of 40 km by 40 km centered on the mine site. It has been delimited by considering the extent of the home range and the probability of presence of the species. The moose inventory area covers a zone of 5 km by 5km also centered on the mine site.

Characterizing the habitat, counting and classifying animals by sex and age group, will take place during a helicopter overflight. Although the inventory is aimed primarily at the woodland caribou and the moose, any sign of other species of interest will also be located and compiled.





## OSISKO MINING Impact Assessment

## Significance of Impacts

The following general approach is used to identify, analyze and mitigate environmental impacts or enhance them if they are positive:

- Identify sources of impact based on the technical characteristics of the different phases of the project (construction, operation, closure);
- Description of the environment (physical, biological and human);
- Consultation with the stakeholders with an interest in the project;
- Experience gained from previous projects;
- Project optimization beginning from the conception phase.

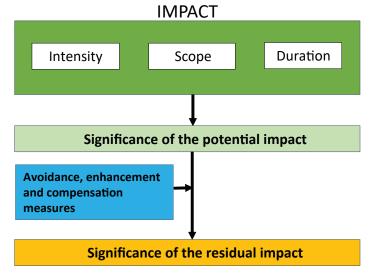
An impact can be positive or negative. However, only significant negative impacts are evaluated.

The significance of the impact is measured according to three criteria:

- Intensity: indicates the degree of disturbance (high, medium, low);
- Scope: proportion of territory or inhabitants affected (regional, local, isolated);
- Duration: period during which the effect of the project will be felt in the environment (long, medium, short).

The significance of the impact is described as:

- Minor
- Average
- Major



## OSISKO MINING Impact Assessment

## Likelihood of the impact

The impact assessment also addresses the likelihood of the impact may affect the environmental component. The probability can be:

- High: the impact will be certain;
- Medium: the impact could occur without being assured;
- Low: the impact is unlikely to occur or could only happen in the event of an accident.

The analysis of the likelihood of the impact is conducted separately from the analysis of the significance of the impact, these are two independent criteria that do not influence each other.

EXAMPLE : Impact on soils during the construction phase					
Intensity: Low					
Scope: Isolated	Significance: Minor				
Duration: Short to medium					
Likelihood: High					



Project Component	Alternative	Conclusion	Major Reasons for Conclusions
Mine Development	Underground mining	Carry Forward	The mineralization is mainly located at depth (100m and lower). Only minor sectors are located near surface. By using underground mining methods, the project is economically feasible.
	Open pit mining	Exclude	The mineralization is mainly located at depth (100m and lower). Only minor sectors are located near surface. The stripping ratio would be high making the deposit uneconomic.
	Underground and micro pits mining	Carry Forward	The mineralization is mainly located at depth (100m and lower). Only minor sectors are located near surface. By using underground mining method and combining it with some micro pits, the economical parameters could be improved.



Project Component	Alternative	Conclusion	Major Reasons for Conclusions
Ore Processing	Non-cyanide processing method	Exclude	Other gold processing technologies (non-cyanide) were considered but do not produce adequate concentration grades and recoveries to make them economic given the finely disseminated nature of the gold.
	Use of cyanide including a synthetic cyanide destruction circuit	Carry Forward	Processing using cyanide including a synthetic cyanide destruction circuit is an economical alternative to both recover the gold and to meet effluent discharge criteria for the tailings management facility.
	Use of cyanide including exclusive use of a natural cyanide destruction	Exclude	Processing using cyanide including a natural cyanide destruction is an economical alternative to recover the gold. However, the presence of cyanide in the tailings management facility represents an unacceptable risk to the environment.



Project Component	Alternative	Conclusion	Major Reasons for Conclusions
Process Plant Location	Waswanipi	Exclude	Although initially presented in the Environmental Impact Study Guidelines from MDDELCC, the Band Council requested that the option of putting a process plant in Waswanipi not be studied.
	Existing Process Plant	Exclude	Because of the mineralogy of the ore where gold grains are 10 microns, using an existing regional process plant is not possible. None of the existing facilities can grind at such a fine size allowing economical gold liberation and recovery.
	Mine Site (hydroelectricity)	Carry Forward	An on-site process plant using hydroelectricity (power line to site) was evaluated.
	Mine Site (generators)	Carry Forward	An on-site process plant using diesel generators (power line to site) was evaluated.
	Lebel-sur- Quévillon former Domtar site	Carry Forward	An off-site process plant located at the former Domtar site using hydroelectricity was evaluated.
	Lebel-sur- Quévillon Kiask site	Carry Forward	An off-site process plant located at the Kiask River site (as presented in the project description) using hydroelectricity was evaluated.



Project	Alternative	Conclusion	Major Reasons for
Component			Conclusions
Power Supply (Mine Site)	Transmission line along forestry road	Carry Forward	The construction of a 115 km power line is possible and this option will be evaluated in the EA.
	On site diesel generators	Carry Forward	The mine site is remote (115 km from the electrical grid) and supplying power with diesel generators will be evaluated in the EA.
	On site wind/solar power generation	Carry Forward	This option cannot economically and consistently supply power to the entire mining infrastructure but it will be carried forward to evaluate if it could supply power for specific needs.
Waste Rock Stockpile Location	Surface options (not yet determined)	Carry Forward	Surface options for waste rock will be identified and evaluated in the EA.
	Return in underground mine openings	Carry Forward	Returning waste rock in underground openings as ground support backfill will be evaluated in the EA.
	Return in micro pits	Carry Forward	If micropits are developed, the possibility to return waste rock in the micropits will be evaluated in the EA.
Ore Transportation	50-ton diesel or LNG trucks	Carry Forward	The use of this type of truck will be evaluated in the EA.
	100-ton + diesel or LNG trucks	Carry Forward	The use of this type of truck will be evaluated in the EA.







### Preliminary Screening of Alternative Methods

Project Component	Alternative	Conclusion	Major Reasons for Conclusions
Tailings Deposition Technology	Slurry (% solid 30-50)	Exclude	Slurry tailings involves water containment representing an environmental risk and increased TMF management. This deposition technology will not be evaluated in the EA.
	Thickened (% solid 50-70)	Carry Forward	The technical and economic feasibility of this deposition technology will be evaluated in the EA.
	Paste (% solid 70-80)	Carry Forward	The technical and economic feasibility of this deposition technology will be evaluated in the EA.
	Filtered (% solid 80+)	Carry Forward	The technical and economic feasibility of this deposition technology will be evaluated in the EA.
Tailings Management Facility	Surface Options	Carry Forward	Surface options for tailings deposition will be identified and evaluated during the EA.
Location	Return in underground mine openings as backfill	Carry Forward only if the plant is located on mine site	If the process plant is located in Lebel-sur-Quévillon on the former Domtar site, it will be uneconomical to return the tailings underground as backfill as the mine is 115 km from the plant.



**Thickened Tailings** 

PasteTailings

**Filtered Tailings** 

Preliminary Screening of Alternative Methods

## Other alternatives to be assessed:

- Ore extraction method;
- Water basins locations;
- Effluents locations;
- Gold doré transportation;
- Transportation of employees to/from site;
- Wastewater management;
- Drinking water supply;
- Waste management.

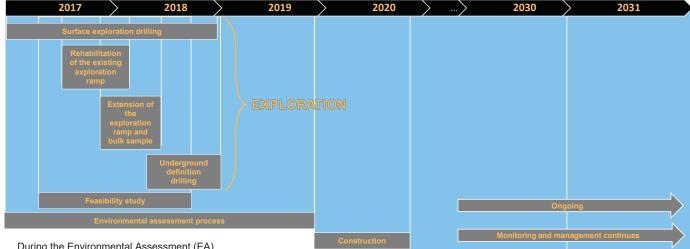




# Your questions about the process

People want to know about the Project Schedule, when will the mining Project begin and how long it will last?

- The earliest the EA could be completed is Q3 2019;
- Construction will take approximately 1 year;
- Operations are expected to last 10 years;
- Closure and decommissioning will take about 2 years;
- Reclamation will be ongoing.



During the Environmental Assessment (EA), we will predict the effects of the Project on the study area. This EA allows Osisko to consider any impacts of the Project on the surrounding environment and to minimize any issues through the mine design phase.



Construction: The construction work for a comparable mining complex such as the one that would be needed for the Windfall Lake project is approximately 1 year.



Closure: Osisko will strive to re-vegetate and restore the mine site progressively, beginning long before mine closure. Various combinations of plants and soil will be selected for the most successful result.



Production: The Project Description completed in July 2017, outlines an initial 10-year mine life operating at 1,900 tons per day.



Feasibility: The mining feasibility study is an evaluation of a proposed mining project to determine if the

mineral resource can be mined

economically.

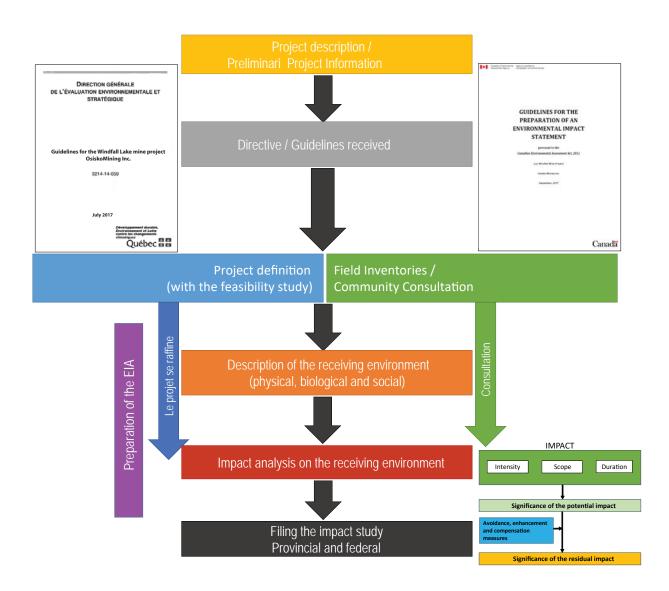


# OSISKO MINING Impact Assessment

## **Provincial and Federal Procedure**

The process follows the provincial environmental impact assessment and review procedure and the federal environmental assessment procedure.

#### Simplified approach of an environmental impact study



## **OSISKO** INING Human resources

Osisko is committed to hiring local people:

- 9% of our employees are from Nord-du-Québec;
- 20% are from Abitibi-Témiscamingue;
- 63% are from other regions of Québec;
- 9% are from Ontario;
- More than 75 First Nation people work on the project (Cree and others).

We also try to outsource contracts for services and goods to local entrepreneurs.

Ways to work on Windfall Lake Project and some jobs related to exploration activities people are currently doing at the Windfall Lake site:

#### Mechanism 1: Work directly for Osisko Mining

- Geologists;
- Technicians: geology, environment;
- Core cutters;
- Supervisors;
- General Labourers;
- Health and Safety Officers and nurses:
- Support Staff;

#### Mechanism 2: Work for Miyuu Kaa JVs

- Gestion ADC: kitchen and janitorial staff;
- Orbit-Garant: driller;
- Fournier et Fils: civil works:

#### Mechanism 3: Work for a contractor working on site

- · Underground contractor;
- Civil works;
- Construction and maintenance;

As the Project moves forward, Osisko's need to hire talented people will continue to grow. Example of future jobs at Windfall Lake site during the operation phase:

- Manager;
- Technician;
- Engineer;
- Geologist;
- Mechanical planner;
- Mechanics;
- Electromechanics;
- Commissioner;
- Fuel and lube attendant; Electrician;

- Bolter operator;
- Drill operator;
- Grader operator;
- Loader operator;
- Cage tender;
- Miner;
- Welder;
- Surveyor;
- Blaster;

- Environment tailings foreman;
- Crusher/ hammer operator; Health and safety Professional;
  - Nurse;
  - IT Professional:
  - Human Resources Professional;
  - Administration Professional;
  - · Clerk.

Although it will likely be at least two years until most of the hiring will take place, feel free to send your resume at careers@osiskomining.com anytime for current opportunities. We also have a "Careers" section on our website where our needs are posted.

Nord-du Québeo 9%

Distribution of employees by region



## OSISKO MINING Location of the process plant

As part of an Environmental Assessment, the proponent has to carry out various alternative assessments. One of the most important alternatives for the Windfall Lake Project is the location of the process plant considering environmental, economic, technical and social indicators

#### Options

Various options were considered for the location of the Windfall Lake Project process plant (see preliminary screening poster).

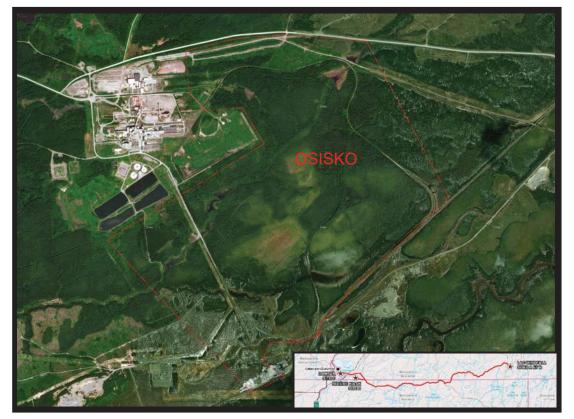
- Former Domtar Site in Lebel-sur-Quévillon;
- Kiask Site 11 km east of Lebel-sur-Quévillon;
- Mine Site;
- Existing processing plant in the region (screened out);
- Waswanipi (screened out).

#### Results

For the mine site, one option considered a power supply from generators and the other option considered the construction of a power line to the mine site.

The preferred alternative is to locate the processing plant in Lebel-sur-Quévillon. Osisko is currently finalizing the acquisition of approximately 560 hectares of land near the former Domtar site.

Option	Mine Site Hydroelectricity	Mine Site Generators	Lebel-sur Quévillon Former Domtar Site	Lebel-sur Quévillon <sub>Kiask</sub> River Site
Ranking Environmental	2	4	1	3
Ranking Technical	3	3	1	1
Ranking Social	3	4	1	2
Ranking Economic	4	1	1	1
Ranking Global	3	4	1	2

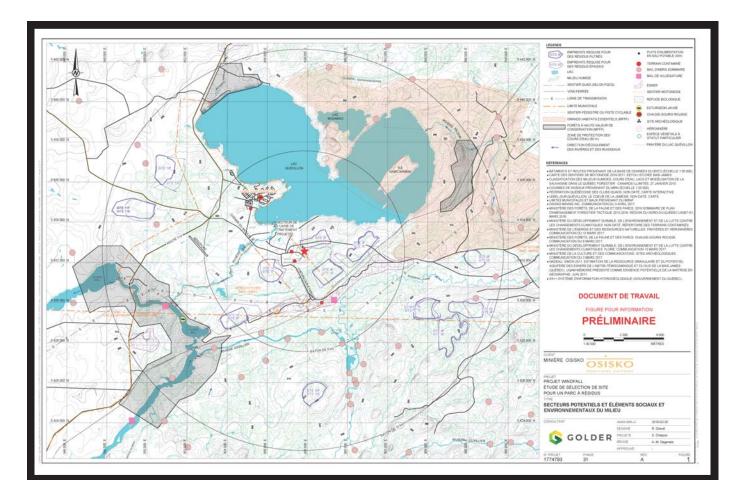


## • OSISKO MINING Tailings

The excess material left after mineral processing is referred to as tailings, a slurry of sand and water which will require specific management and will be stored in a tailings management facility.

Total tailings produced: 6.8 Mt

Osisko is currently considering different management options for its tailings (see Preliminary Screening of Alternative Methods poster). Several sites were identified for the construction of the tailings management facility. These sites will be evaluated considering environmental, social, technical and economic aspects.





Notes



Notes



# Thank you for your time!

Please contact us if you have any question:

Èva Roy-Vigneault

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